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(57) Abstract

Herbicidal compositions and method of use involving effective amounts of substituted benzene compounds to control the growth of undesired vegetation.

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TITLE HERBICIDAL BENZENE COMPOUNDS.

BACKGROUND OF THE INVENTION

This invention relates to agriculturally suitable compositions of certain herbicidal benzene compounds and a method for their use as selective preemergent or postemergent herbicides for controlling the growth of undesired vegetation in crops such as rice.

New compounds effective for controlling the growth of undesired vegetation are in constant demand. In the most common situation, such compounds are sought to selectively control the growth of weeds in useful crops such as cotton, rice, corn, wheat and soybeans, to name a few. Unchecked weed growth in such crops can cause significant losses, reducing profit to the farmer and increasing costs to the consumer. In other situations, herbicides are desired which will control all plant growth. There are many products commercially available for these purposes, but the search continues for products which are more effective, less costly and environmentally safe.

SUMMARY OF THE INVENTION

This invention comprises agriculturally suitable compositions wherein the active compounds are the compounds of Formulas I and II, and their method-of-use as preemergent and/or postemergent herbicides or plant growth regulants. Accordingly, the compositions of the invention comprise compounds of the formula

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wherein

R1 is C1, Br, I, OCH3, OCHF2, OCF3 or NO2; R^2 is CN, CO_2R^4 , CHO, $C(X)NR^{17}R^{18}$, $C(S)OR^6$, C=CH, CHR¹⁹OR²⁰, CH=NOR⁷, CH=CR²¹R²², C(halogen)=NOR⁷, $C(NH_2) = NOR^7$, $C(CN) = NOR^7$, CHR^{19} (halogen), CHR¹⁹CN, CHR¹⁹C(=0)NH₂, CHR¹⁹CO₂H, or a fivemembered heterocyclic ring containing one or more nitrogen, sulfur, or oxygen atoms and optionally substituted with one or more CH3, CF₃, OCH₃, SCH₃, or halogen;

 R^3 is n-propyl; C_4-C_{10} alkyl; n-propyl or C_4-C_7 alkyl each substituted with one or more halogen, OR8, SR9 or NR10R11; C1-C2 alkyl substituted with OR16, SR9, NR14R15, CO2(C1-C2 alkyl) or phenyl optionally substituted with one or more CH3, CF3, OCH3, SCH3 or halogen; C3-C6 cycloalkyl; CH2(C3-C6 cycloalkyl); phenyl, pyridyl, thienyl, furyl, pyrazolyl or thiazolyl, each optionally substituted with one or more CH3, CF3, OCH3, SCH3 or halogen; C2-C6 alkenyl optionally substituted with one or more halogen or $CO_2(C_1-C_2 \text{ alkyl})$; OR^{12} ; SR^{13} ; $NR^{14}R^{15}$;

(H,
$$C_1$$
- C_2 alkyl) (H, C_1 - C_2 alkyl)

 CH_2
 CH_2
 CH_2

or

 $C (=X) R^{12};$ $O-N=CR^{30}R^{31}$;

 R^4 is H, C_1-C_2 alkyl,

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- R^6 , R^7 , R^8 , R^9 , R^{10} and R^{11} are independently H or $C_1\text{-}C_2$ alkyl;
- R¹² and R¹³ are independently C₁-C₁₀ alkyl optionally substituted with one or more halogen, OR⁸, SR⁹, CO₂R²³, C(O)NR²⁴R²⁵, CN, Si(CH₃)₃, C(R²⁶) (OR²⁷) (OR²⁸) or NR¹⁰R¹¹; C₁-C₃ alkyl substituted with a five- or six-membered heterocyclic ring containing 1-2 heteroatoms selected from the group 1-2 nitrogens, 1 oxygen and 1 sulfur, each ring optionally substituted with 1-2 substituents selected from F, Cl, Br, CH₃, CF₃, OCH₃ and CN; C₃-C₆ alkenyl; or phenyl or benzyl, each ring optionally substituted with one or more CH₃, CF₃, OCH₃, OR²⁹, SCH₃ or halogen;
 - R¹⁴ and R¹⁵ are independently H or C₁-C₂ alkyl, or may be taken together along with the nitrogen to which they are attached to form a pyrrolyl, piperidinyl, morpholinyl, pyrazolyl, or imidazolyl ring, each optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃, or halogen;
 - R¹⁶ is H, C₁-C₈ alkyl; benzyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen; or phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen;
 - R^{17} is H, C_1-C_2 alkyl or phenyl optionally substituted with one or more CH_3 , CF_3 , OCH_3 , SCH_3 or halogen;
 - R^{18} is H, C_1-C_2 alkyl, C_3-C_6 cycloalkyl, $CH_2(C_3-C_6$ cycloalkyl), $O(C_1-C_4$ alkyl), O-allyl or may be taken together with R^{17} as $-(CH_2)_4-$, $-(CH_2)_5-$ or $-(CH_2CH_2OCH_2CH_2)-$;
- 35 R^{19} is H or C_1-C_2 alkyl;

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 \mathbb{R}^{20} is H or C(O)CH₃;

 R^{21} and R^{22} are independently H, CN, CO_2R^4 , $C(X)NR^{17}R^{18}$ or halogen;

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- R^{23} , R^{24} , R^{25} and R^{26} are independently H; C_1 - C_3 alkyl; or phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃, or halogen;
- R^{27} and R^{28} are independently C_1-C_3 alkyl or may be taken together as $-(CH_2)_2-$ or $-(CH_2)_3-$ optionally substituted with 1-2 CH_3 's;
- 10 X is O or S;
 - R²⁹ is phenyl, pyridyl, thiazolyl, pyrazolyl or pyrrolyl each optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃, or halogen; and
 - R³⁰ and R³¹ are each independently H; C₁-C₁₀ alkyl; or phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃, or halogen; and agriculturally suitable salts thereof.

In the above definitions, the term "alkyl" includes straight chain or branched alkyl, e.g., methyl, ethyl, n-propyl, isopropyl or the different butyl isomers, etc. Cycloalkyl includes cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl. The term "halogen" means fluorine, chlorine, bromine or iodine.

The agriculturally suitable composition of the
invention for controlling the growth of undesired
vegetation comprises an effective amount of a compound
of Formula I or II as defined above and at least one of
the following: surfactant, solid or liquid diluent.

The preferred compositions of the invention for reasons including ease of synthesis and/or greater herbicidal efficacy involve:

 A compound of Formula I or II wherein R¹ is Cl, Br or I;

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 R^2 is CN, CO_2H , CO_2CH_3 , $CO_2CH_2CH_3$, CHO, $C(O)NH_2$, $C(O)NHCH_3$, $C(O)N(CH_3)_2$, CH_2OH or $CH=NOR^7$ or $C(NH_2)=NOR^7$;

R³ is n-propyl; C₄-C₇ alkyl; C₂ alkyl substituted with phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen; CH₂(C₃-C₆ cycloalkyl); phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen; or OR¹²;

 R^{12} is C_2-C_4 alkyl;

2. A compound of Preferred 1 wherein R¹ is Cl or Br; R² is CN, CO₂H or C(O)NH₂;

 \mathbb{R}^3 is \mathbb{C}_4 - \mathbb{C}_7 alkyl, $\mathbb{CH}_2(\mathbb{C}_3$ - \mathbb{C}_6 cycloalkyl) or \mathbb{CR}^{12} .

Specifically preferred is the compound 2-chloro-4-(2-methylpropoxy)benzamide.

Another embodiment of the invention is a method for controlling the growth of undesired vegetation which comprises applying to the locus to be protected an effective amount of a composition comprising a compound of Formula I or II as defined above.

The preferred method of use involves the compositions wherein the above preferred compounds are utilized.

DETAILED DESCRIPTION OF THE INVENTION

The compounds of Formulae I and II can be readily prepared by one skilled in the art by using the reactions and techniques described in Schemes 1 to 17 below. Many of the compounds disclosed herein are known in the art or can be prepared by well known literature procedures.

In some of the schemes, compounds of Formulae I and 35 II are represented by formulae with a floating R³

substituent wherein \mathbb{R}^3 is attached at the 4- and 5-position, respectively (see Formula A below). The definitions of \mathbb{R}^{1} - \mathbb{R}^{31} and X are the same as defined for Formulae I and II above.

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 $4-R^3$ = Formula I 5-R³ = Formula II

In cases where the substituent of a starting material is not compatible with the reaction conditions described for any of the reaction schemes, it can be assumed that the substituent is converted to a protected form prior to the described reaction scheme and then deprotected after the reaction using commonly accepted protecting/ deprotecting techniques (as an example, see T. W. Greene and P. G. M. Wuts, "Protective Groups in Organic Synthesis", 2nd Edition, John Wiley and Sons, Inc., New York, 1991). Otherwise alternative approaches known to one skilled in the art are available.

The compounds of this invention are made by the following processes.

Introduction of R¹

Scheme 1 illustrates the preparation of compound 1, a compound of Formula I or II wherein R¹=NO₂. Many nitrobenzenes are commercially available or can be prepared by literature methods. A variety of methods are known in the literature, for example, see J. March, Advanced Organic Chemistry, 3rd Ed., John Wiley and Sons, New York (1985) and references cited therein.

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Scheme 1

5 Anilines of Formula 2 can be prepared from nitro compounds of Formula 1 by reduction with tin II chloride (Scheme 2). Processes of this type are well known in the literature. For example, see T. Ho and C. M. Hong, Synthesis 1974 45. The aniline of Formula 10 2 can be converted to the halobenzene of Formula 3 (W=Cl, Br, or I) using the Sandmeyer reaction. Alternatively, the phenol of Formula 4 can be obtained from the aniline by preparation of the diazonium salt followed by hydrolysis. Methods of these types are 15 described in Sandler S. R.; Karo W., Organic Functional Group Preparations, Academic: New York, (1983); Chapters 13 and 17.

Scheme 2

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Compounds of Formulae I and II wherein \mathbb{R}^1 is OCH₃, OCHF₂ or OCF₃ can be prepared by the methods illustrated in Scheme 3.

Scheme 3

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Phenols of Formula 4 can be treated with a methylating agent, such as iodomethane or methyl
sulfate, and a base such as potassium carbonate, potassium hydroxide, potassium hydride, potassium t-butoxide, sodium hydride, sodium hydroxide or sodium carbonate in an inert solvent such as N,N-dimethyl-formamide, benzene, toluene, xylene or tetrahydrofuran.

The reaction temperature ranges from 0-140°C and reaction time is between 30 minutes and 200 hours.

Upon completion of the reaction, the reaction mixture is concentrated under reduced pressure. Water is then added to the residue and extracted with organic solvent. The organic extract is dried over sodium sulfate or magnesium sulfate and concentrated to provide the crude anisole of Formula 5.

The crude product can be further purified by crystallization, distillation and flash column-chromatography if needed.

Compounds of Formula 6 and 7 are prepared by treating the phenol of Formula 4 with chlorodi-fluoromethane or chlorotrifluoromethane, respectively,

under literature conditions (K. Morimoto, K. Makino, S. Yamamoto and G. Sakata, J. Heterocycl. Chem., 1990, 27, 807 and Fuss A.; Koch V., Synthesis, 1990, 604 and 681-685).

5 <u>Introduction of R²</u>

Benzonitriles of Formula 9 can be prepared from the corresponding halobenzenes of Formula 8 by treatment with potassium cyanide or cuprous cyanide (Scheme 4). The halobenzene is dissolved or dispersed in a solvent such as N, N-dimethylformamide or N-methyl-2-pyrrolidone and treated with the cyanide salt at temperatures of 120-180°C for 1 to 24 hours. Aqueous work-up followed by purification by distillation, recrystallization, or column chromatography affords the desired material.

15 Scheme 4

$$\mathbb{R}^3$$
 8 \mathbb{R}^3 \mathbb{R}^3 \mathbb{R}^3

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Alternatively, benzonitriles of Formula 9 can be prepared from nitrobenzenes of Formula 10 as illustrated in Scheme 4. The nitrobenzene is reduced to the aniline of Formula 11 by hydrogenation or methods described above. The aniline of Formula 11 can then be converted to the benzonitrile by formation of the diazonium salt followed by treatment with cuprous cyanide (see Sandler S. R.; Karo W., Organic Functional

Group Preparations, Academic: New York, (1983); Chapters 13 and 17).

The benzonitriles of Formula 9 can be converted to compounds of the present invention wherein $R^2=CO_2R^4$, $C(X)NR^{17}R^{18}$, $C(halogen)=NOR^7$ and $C(S)OR^6$ as illustrated in Scheme 5.

Scheme 5

CN
$$30\% H_2O_2$$
 R^1
 R^2
 R^3
 R^3

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The cyano compound can be converted to the amide of Formula 10 according to Youngdale G. A.; Oglia T. F., J. Med. Chem. 1985, 28, 1790-96 using 30% aqueous hydrogen peroxide, methanol and sodium hydroxide or A. Katritzky; B. Pilarski and L. Urogdi, Synthesis 1989, 950 using 30% aqueous hydrogen peroxide, potassium carbonate and dimethylsulfoxide. addition, the cyano group in compounds of Formula 9 can be converted to carboxylic acids of Formula 11 using 10 about 5-20% aqueous base such as sodium hydroxide or potassium hydroxide (preferably 5%) at about 25 to 100°C for 1 to 24 hours. The carboxylic acid can be converted to the acid chloride of Formula 12 using thionylchloride or phosphorus oxychloride. chloride may be treated with R4OH to provide the 15 corresponding ester of Formula 13 under conditions well known to those versed in the art. In an analogous fashion the acid chloride may be treated with NHR17R18 to provide the corresponding amide of Formula 14.

The thioesters of Formula 15 and the thioamides of Formula 16 can be synthesized by treatment of the aforementioned esters and amides, respectively, with Lawesson's reagent (see Pedersen, B. S., Lawesson, S. O., Tetrahedron 1979, 2433-2437 and references cited therein).

The compounds of Formula 17 can be prepared from the amides of Formula 14 (Scheme 6). The amide is treated with a tetrahalomethane/triphenylphosphine reagent as described in the art (T. Sakamoto et al., Synthesis, 1991, 9, 950-952 and E. C. Taylor et al., J. Org. Chem., 1971, 36, 253).

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Scheme 6

The anilines of Formula 11 can be converted to the benzaldehydes of Formula 18 by following the methods taught in H. E. Baumgarten, Ed. Organic Syntheses V, John Wiley, New York (1973) 139-142 or using obvious modifications thereof (Scheme 7).

10 Scheme 7

The benzaldehyde can be oxidized to the

corresponding carboxylic acid of Formula 19 using the methods disclosed in Dalcandle, E.; Montanari, F. J. Org. Chem. 1986, 51, 567-569 and Srivastava R. G., Venkataramani Synth. Commun. 1988, 18, 2193-2200. The carboxylic acid functionality can in turn be converted into the R² groups of the present invention as described above and illustrated in Scheme 5.

The benzaldehydes of Formula 18 can also be used to prepare other compounds of the present invention as illustrated in Scheme 8.

Scheme 8

The benzaldehyde of Formula 18 can be converted to the oxime of Formula 20 by reacting it with NH₂OR⁷. The aldehyde of Formula 18 can also be reacted with active methylene compounds of the type CH₂R²¹R²² and a base such as pyridine and potassium carbonate to provide the olefin of Formula 21. The secondary alcohol of Formula 22 (R²=CH(C₁-C₂ alkyl)OH) can be prepared by treatment of the benzaldehyde with (C₁-C₂ alkyl)MgBr. Alcohols of Formulae I and II wherein R²=CH₂OH can be prepared by conventional

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reduction of benzaldehydes of Formula 18. These benzylic alcohols and the alcohols of Formula 22 can be treated with acetyl chloride or acetic anhydride under standard conditions to prepare compounds wherein R²⁰ is C(O)CH₃.

The terminal alkyne of Formula 24 can be synthesized from the benzaldehyde of Formula 18 by the Corey-Fuchs homologation by treating the aldehyde first with carbon tetrabromide/triphenylphosphine to form the dibromoolefin of Formula 23, followed by treatment with n-butyllithium, rearrangement and quench with aqueous acid according to Corey, E. J., Fuchs, P. L., Tetrahedron Lett. 1972, 3769-3772 and references cited therein.

Cyanooximes of Formula 26 wherein R² = C(CN)=NOR⁷ can be prepared as illustrated in Scheme 9. The phenylacetonitrile of Formula 25 is treated with an alkylnitrite under basic conditions using the procedures described in Noland, W. E., ed., Organic Syntheses VI, John Wiley: New York (1988), pp 199-203.

Scheme 9

$$CH_2$$
 CN (alkyl) ONO base R^3 25 R^3 26 R^3 26

Compounds of Formula I and II wherein $R^2 = CHR^{19}(halogen)$, $CHR^{19}CN$, $CHR^{19}C(=0)NH_2$, and $CHR^{19}CO_2H$ can be prepared using the methods illustrated in Scheme 10. The alcohol of Formula 27 can be prepared using the method described in Scheme 8

 $(R^{19}=C_1-C_2 \text{ alkyl})$ or by conventional reduction of the benzaldehyde as described previously $(R^{19}=H)$.

Scheme 10

Treatment of the benzylic alcohol with a thionyl10 halide (e.g., thionylchloride) at 25-100°C in an inert
solvent such as benzene, toluene or dichloromethane for

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2-12 hours produces the halide of Formula 28.

Displacement of the halide with a cyanide salt, for example potassium cyanide, produces the nitrile of Formula 29. This method is described in Sandler, S. R., Karo, W. in Organic Functional Group Preparations, Academic: New York (1983); Chapter 17. The nitrile can be converted to the amide of Formula 30 or the carboxylic acid of Formula 31 using conditions described above for the coversion of nitriles to amides and acids (see Scheme 5).

Introduction of R3

Scheme 11 illustrates the preparation of compounds of Formula II wherein $R^3 = OR^{12}$ or $O-N=CR^{30}R^{31}$. In order for the nucleophilic aromatic substitution to occur, R^2 must be a powerful electron-withdrawing substituent such as cyano or nitro. The halobenzenes of Formulae 23 and 24 are either commercially available or can be prepared by one skilled in the art using well known methods.

20 <u>Scheme 11</u>

The halobenzene 32 is treated with R¹²OH or

25 HO-N=CR³⁰R³¹ and one equivalent of a base such as sodium hydride, potassium hydride, potassium hydroxide, potassium t-butoxide and sodium hydroxide in an inert solvent such as N,N-dimethylformamide, benzene, toluene, xylene and tetrahydrofuran. The reaction

temperature ranges from 0 to 140°C and reaction time is between 30 minutes and 120 hours.

Upon completion of the reaction, the reaction mixture is concentrated under reduced pressure. Water is then added to the residue and extracted with organic solvent. The organic extract is dried and concentrated to provide crude product. The crude phenylether of Formula 33 or 34 can be further purified by flash column chromatography if needed.

In a similar fashion, $R^{13}SH$ and $R^{14}R^{15}NH$ can be used instead of $R^{12}OH$ or $HO-N=CR^{30}R^{31}$ in the process illustrated in Scheme 11 to afford compounds of Formula II wherein $R^3=R^{13}S$ and $R^{14}R^{15}N$, respectively.

Compounds of Formula I wherein R³=OR¹² can be synthesized as illustrated in Scheme 12. The anisoles of Formula 35 are commercially available or can be synthesized by one skilled in the art by following literature methods or slight modifications thereof. Alternatively, the phenols of Formula 36 can be prepared from the nitro compounds as described above (see Scheme 2).

Scheme 12

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The complete demethylation of the methylether can be accomplished using boron tribromide (BBr₃) or other

reagents described in a review by M. V. Bhatt and S. U. Kulkarni, *Synthesis* **1983**, 248-282. The phenol then can be alkylated to produce the R¹² ether of Formula 37.

The thiols can be prepared using the well-known methods four step procedure for converting anilines to thiols illustrated in Scheme 13. These synthetic steps are described in detail in Sandler, S. R.; Karo, W., Organic Functional Group Preparations, Academic: New York (1983), Chapters 16, 13, 4 and 18, respectively. Alkylation of the sulfur with R¹³L wherein L is a typical leaving group such as bromide, under standard conditions affords compounds of Formulae I and II wherein R³ = SR¹³.

Scheme 13

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Compounds of Formulae I and II wherein \mathbb{R}^3 is a mono- or disubstituted amino group and \mathbb{R}^{14} and \mathbb{R}^{15} are separate substituents can be prepared as illustrated in Scheme 14. Treatment of the aniline of Formula 38 with acetic anhydride affords the monoacetyl compound of Formula 39. N-Alkylation with $(C_1-C_2 \text{ alkyl})L$, wherein L is a leaving group such as iodide, affords compounds of Formula 40. Hydrolysis of the acetyl group with base affords the monoalkyl compound. A second

alkylation with $(C_1-C_2 \text{ alkyl})L$ affords the disubstituted compound of Formula 41.

Scheme 14

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Compounds of Formulae I and II wherein R¹⁴ and R¹⁵ are taken together to form a ring can be prepared by nucleophilic aromatic substitution as described above (Scheme 11). Alternatively, the aniline of Formula 38 in Scheme 14 may be alkylated with L-(CH₂)₄-L, L-(CH₂)₅-L or L-(CH₂)₂O(CH₂)₂-L to form the pyrrolidinyl, piperidinyl, and morpholinyl compounds, respectively.

Compounds of Formulae I and II wherein R^3 = CH_2OR^{16} , CH_2SR^9 , and $CH_2NR^{14}R^{15}$ can be prepared starting from toluenes as illustrated in Scheme 15. The starting toluenes are commercially available or can be prepared

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by one skilled in the art following literature methods or obvious modifications thereof.

Scheme 15

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Toluenes of Formula 42 can be converted to bromomethyl compounds of Formula 43 using one equivalent of N-bromosuccinimide (NBS) in a solvent such as dichloromethane or carbon tetrachloride at a temperature between 25-100°C for 1 to 48 hours. The bromo compound can be converted to ethers of Formula 44 using R¹⁶OH and a base such as triethylamine, pyridine or potassium carbonate in an inert solvent such as N, N-dimethylformamide, benzene, toluene, kylene or tetrahydrofuran. The reaction temperature ranges from 0 to 140°C and reaction time is between 1 hour and 120 hours.

The bromo compound of Formula 43 can be reacted with R^9SH or $R^{14}R^{15}NH$ instead of $R^{14}OH$ using the same procedure outlined in Scheme 15 to prepare compounds of Formulae I and II wherein $R^3=CH_2SR^9$ or $CH_2NR^{14}R^{15}$.

Scheme 16 illustrates the synthesis of compounds of Formulae I and II wherein R^3 is n-propyl; C_4 - C_{10} alkyl; n-propyl or C_4 - C_7 alkyl substituted with one or more halogen, OR^8 , SR^9 or $NR^{10}R^{11}$; C_1 - C_3 alkyl substituted

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with OR^{16} , SR^9 , $NR^{14}R^{15}$, $CO_2(C_1-C_2 \text{ alkyl})$, or phenyl optionally substituted with one or more CH_3 , CF_3 , OCH_3 , SCH_3 or halogen; $CH_2(C_3-C_6 \text{ cycloalkyl})$, or $C_3-C_6 \text{ alkenyl}$ optionally substituted with one or more halogen or $CO_2(C_1-C_2 \text{ alkyl})$.

The R^{32} group in the Formulae of Scheme 16 can be n-ethyl; C_3 - C_9 alkyl; n-ethyl or C_3 - C_6 alkyl substituted with one or more halogen, OR^8 , SR^9 or $NR^{10}R^{11}$; C_1 - C_2 alkyl substituted with OR^{16} , SR^9 , $NR^{14}R^{15}$, CO_2 (C_1 - C_2 alkyl), or phenyl optionally substituted with one or more CH_3 , CF_3 , OCH_3 , SCH_3 or halogen; C_3 - C_6 cycloalkyl; or C_2 - C_5 alkenyl optionally substituted with one or more halogen or CO_2 (C_1 - C_2 alkyl).

The acid chlorides of Formula 45 are commercially available or can be prepared using the methods disclosed herein or commonly known to one skilled in the art.

Scheme 16

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The acid chlorides of Formula 45 can be converted to ketones of Formula 46 using the methods described in Sandler S.R.; Karo W.; Organic Functional Group

25 Preparation; Academic; New York, (1983); Chapter 8.

The ketones of Formula 46 can be reduced to the

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methylene compounds of Formula 47 using a variety of reducing agents, for example sodium borohydride/ aluminum chloride, as described in Hudlicky, M., Reductions in Organic Chemistry, Eillis Horwood: New York; (1984) 107-132.

Compounds of Formulae I and II wherein R³ = alkyl or optionally substituted phenyl, pyridyl, thienyl, furyl, pyrazolyl, or thiazolyl can be prepared using a palladium-catalyzed cross-coupling reaction as illustrated in Scheme 17.

Scheme 17

- Treatment of a phenyl bromide with an organozinc reagent of Formula R³Zn(halide) in the presence of tetrakis(triphenylphosphine)palladium (0) affords the R³ substituted compounds of Formulae I and II. Examples of this well-known procedure can be found in: 20 Y. Okamoto et al., J. Organomet. Chem. 1989, 369, 285-290; E. Erdik, Tetrahedron, 1992, 48, 9577-9648; Heathcock, C. H., ed. Organic Syntheses, Vol. 66, John Wiley: New York (1987), pp 67-74; and E. Negishi et al., J. Org. Chem., 1977, 42, 1821-1823.
- 25 Compounds of Formulae I and II wherein R³ is optionally substituted phenyl, furyl, thienyl or pyridyl can also be prepared by palladium-catalyzed cross-coupling with arylboronates using the procedures described in N. Miyaura et al., Synth. Commun., 1981, 11, 513, M. A. Siddiqui, V. Snieckus, Tetrahedron Lett., 1988, 5463, and W. J. Thompson et al., J. Org. Chem., 1988, 53, 2052.

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In addition, compounds of Formulae I and II wherein R³ is optionally substituted pyridyl, thiazolyl, pyrrolyl, thienyl or furyl can be prepared by palladium-catalyzed cross-coupling with heteroaryl trialkylstannanes. Examples of the this procedure are also known in the literature. For example, see T. R. Bailey, Tetrahedron Lett., 1986, 4407 and A. Minato et al., Tetrahedron Lett., 1981, 5319.

EXAMPLE 1

10 Step A: Preparation of methyl 2-chloro-4-hydroxy benzoate

Under nitrogen, 6 g of thionyl chloride was added dropwise to ice cold (0°C) methanol (50 mL). mixture was stirred at ambient temperature for 30 15 minutes. To this solution was then added 8.6 g of 2-chloro-4-hydroxy benzoic acid. The resulting mixture was heated at reflux for ~12 hours and then concentrated under reduced pressure. The residual solid was suspended in 100 mL of a mixture of hexane: 20 diethyl ether (90:10) and the solid precipitate was collected by filtration, washed with hexane, air dried and then dried in a vacuum oven to provide 6 q of the title product of Step A as a solid, m.p. 126-129°C; NMR $(CDCl_3): ppm \delta 7.84 (d, 1H); 6.96 (s, 1H); 6.78 (d of$ 25 d, 1H); 6.35 (b, s, 1H); 3.9 (s, 3H); IR (Nujol): 3300 cm^{-1} , 1700 cm^{-1} (C=O).

Step B: Preparation of Methyl 2-chloro-4-(2-methyl-propyloxy)benzoate

To 3 g of methyl 2-chloro-4-hydroxy benzoate in

N,N-dimethyl formamide (25 mL), a solution of 3 g of

2-methyl-1-bromo propane in N,N-dimethylformamide

(5 mL) and 3 g of potassium carbonate was added. The

mixture was then heated at 90-95°C for 2 hours. After

heating the mixture was cooled to room temperature and

poured into water (100 mL). The mixture was then

extracted with diethylether (2 times with 50 mL). The diethylether extracts were combined, dried over magnesium sulfate and concentrated under reduced pressure to provide crude product. The isolated crude product was purified by silica gel flash column chromatography (Hexane: ethyl-acetate 8:2) to provide after evaporation of eluant 3 g of the title compound of Step B as a clear oil; NMR (CDCl₃): ppm δ 7.88 (d, 1H); 7.0 (s, 1H); 6.8 (d, 1H); 3.89 (s, 3H); 3.74 (d, 2H); 2.0 (m, 1H); 1.035 (d, 6H); IR (Neat): 1730 cm⁻¹ (C=O).

EXAMPLE 2

<u>Preparation of 2-chloro-4-(2-methyl-propyloxy)benzoic acid</u>

A mixture of 5 g of methyl 2-chloro-4-hydroxy 15 benzoate, and 1.6 g potassium hydroxide in methanol (30 mL) was heated at reflux for ~3 hours and allowed to stir at ambient temperature for 12 hours. reaction mixture was concentrated under reduced pressure. The residue was dissolved in water (50 mL) 20 and extracted with diethyl ether (25 mL) and the diethyl ether extracts were discarded. The aqueous extract...was, acidified with concentrated hydrochloric acid to pH ~4 and the resulting solids were collected by filtration, washed with water (50 mL), hexane 25 (50 mL) and dried under vacuum overnight to provide 4.5 g of title compound as a white solid, m.p. 82-84°C; NMR (CDC1₃): ppm δ 8.0 (d, 1H); 7.0 (s, 1H); 6.8 (d, 1H); 3.78 (d, 2H); 2.1 (m, 1H); 1.02 (d, 6H); IR (Nujol): $1700 \text{ cm}^{-1} \text{ (C=O)}$. 30

EXAMPLE 3

<u>Preparation of 2-chloro-4-(2-methylpropyl-oxy)benzamide</u>

Under nitrogen, 2.6 g of 2-chloro-4-(2-methyl-35 propyloxy)benzoic acid was dissolved in benzene (25 mL)

and thionyl chloride (5 mL) was added. The resulting solution was heated at reflux for 3 hours and concentrated under reduced pressure to provide an oil. The oil was dissolved in tetrahydrofuran (20 mL) and cooled to 0°C (ice bath) and 4 mL of aqueous ammonium hydroxide (30%) was added and stirred for 30 minutes. The mixture was concentrated under reduced pressure. To the residue, water (100 mL) was added and the resulting precipitate was collected by filtration, washed with water and dried under vacuum to provide 10 1.4 g of the title compound as a white solid, m.p. 129-130°C; NMR (CDCl₃): ppm δ 7.85 (d, 1H); 6.92 (s, 1H); 6.86 (d, 1H); 6.6 (b,s, 1H); 6.5 (b,s, 1H); 3.74 (d, 2H); 2.2 (m, 1H); 1.03 (d, 6H); IR (Nujol): 3360, $3170 \text{ cm}^{-1} \text{ (NH}_2), 1635 \text{ cm}^{-1} \text{ (C=O)}.$ 15

EXAMPLE 4

Step A: Preparation of 2-bromo-5-hydroxy-benzoic acid Under nitrogen, 4.62 g of 2-bromo-5-methoxy benzoic acid was suspended in dichloromethane (50 mL). 20 mixture was cooled to 0°C and boron tribromide (60 mL, 1M solution in dichloromethane) was added dropwise. The clear solution was stirred at ambient temperature for 12 hours, cooled to 5°C. Water (25 mL) was subsequently added dropwise, the mixture stirred for 30 25 minutes and extracted with diethylether (2 times with The diethylether extracts were dried over magnesium sulfate and concentrated under reduced pressure to provide 2.2 g of the title compound of Step A as a solid, m.p. $179-181^{\circ}$ C; NMR (Me₂SO-d₆): δ 10.0 (b,s, 1H); 7.48 (d, 1H); 7.13 (s, 1H); 6.8 (m, 30 1H); IR (Nujol): 1705 cm^{-1} (C=0).

Step B: Preparation of methyl 2-bromo-5-bydroxy-benzoate

By the procedure of Example 1, Step A, 1.67 g of 2-bromo-5-hydroxy-benzoic acid was reacted with 5 mL

thionyl chloride in methanol (20 mL). The isolated crude product was washed with hexane and dried under vacuum to provide 1.8 g of title compound of Step B as a white solid, m.p. 92-95°C; NMR (CDCl₃): ppm δ 7.5 (d, 1H); 7.3 (m, 1H); 6.8 (m, 1H); 3.94 (s, 3H); IR (Nujol): 3400 cm⁻¹ (OH); 1700 cm⁻¹ (C=O).

Step C: Preparation of Methyl 2-bromo-5-(2-methyl-propyloxy)benzoate

By the procedure of Example 1, Step B, 1.2 g of

10 methyl 2-bromo-5-hydroxy-benzoate was reacted with

0.816 g potassium carbonate and 0.816 g of 2-methyl-1
bromopropane in N,N-dimethylformamide (20 mL). The

isolated crude product was purified by silica gel flash

column chromatography (hexane: ethylacetate 8:2) to

15 provide after evaporation of eluant 1 g of the title

compound of Step C as an oil. NMR (CDCl₃): ppm & 7.53

(d, 1H); 7.31 (m, 1H); 6.8 (d of d, 1H); 3.92 (s, 3H);

3.7 (d, 2H); 2.0 (m, 1H); 1.03 (d, 6H); IR (neat):

1740 cm⁻¹ (C=0).

20 EXAMPLE 5

Preparation of Methyl 2-bromo-5-(2-methyl-propyloxy)benzoic acid

2-bromo-5-(2-methylpropyloxy)-benzoate was reacted with 25 1.7 g of potassium-hydroxide in methanol (50 mL) to provide 5 g of title compound as a white solid mp 105-109°C. NMR (CDCl₃): ppm & 7.57 (d, 1H); 7.52 (s, 1H); 6.95 (m, 1H); 3.74 (d, 2H); 2.1 (m, 1H); 1.04 (d, 6H); IR (Nujol): 1665 cm⁻¹ (C=O).

EXAMPLE 6

<u>Preparation of 2-Bromo-5-(2-methyl-propyloxy)benzamide</u>

By the procedure of Example 3, 1.36 g of product of Example 5 was reacted first with thionylchloride 5 mL, and then 1.7 mL of aqueous ammonium hydroxide to

30

provide 1 g title compound as a white solid mp $135-137^{\circ}$ C. NMR (CDCl₃): ppm δ 7.47 (d, 1H); 7.21 (s, 1H); 6.8 (d of d, 1H); 6.2 (b,s, 1H); 6.0 (b,s, 1H); 3.72 (d, 2H); 2.0 (m, 1H); 1.02 (d, 6H); IR (Nujol): 3350 cm⁻¹ (NH₂) 1640 cm⁻¹ (C=O).

EXAMPLE 7

<u>Preparation of 2-Chloro-4-(3-trifluoro-methylphenyl)benzonitrile</u>

To 5.4 g of 2-chloro-4-bromo-benzonitrile in 8 mL of ethylene glycol dimethyl ether, 0.01 g of 10 (Ph₃P)₂PdCl₂ was added and stirred at ambient temperature for 15 minutes. To this mixture 5.23 g of 3-trifluoromethylbenzeneboronic acid and 6.38 g of sodium bicarbonate in 40 mL water were added and heated at reflux for 2.5 h. The mixture was then cooled to 15 ambient temperature and extracted two times with 50 mL ethyl acetate. The combined ethyl acetate extracts were washed with 150 mL of 0.5 N aqueous sodium hydroxide and 50 mL of brine. The ethyl acetate 20 extracts were dried over magnesium sulfate and concentrated under reduced pressure to provide the title compound as a white solid, m.p. 92-98°C. 1H-NMR $(CDC1_3): ppm \delta 7.73 (m, 5H); 7.58 (m, 2H); 7.59 (m,$ IR (Nujol): 2227 (C=N) cm^{-1} . 1H).

25 EXAMPLE 8

<u>Preparation of 2-Chloro-4-(3-trifluoro-methylphenyl) benzamide</u>

To a solution of 1.41 g of the compound of Example 7 in dimethylsulfoxide (8 mL), 1.12 mL of 30% aqueous hydrogen peroxide and 0.28 g of potassium carbonate were added. The mixture exothermed to ~35°C; and was then heated to 60°C for 1 h. The mixture was allowed to come to room temperature and poured into water (50 mL). The resulting solid was collected, washed with 50 mL of water and hexanes and dried under

30

35

vacuum overnight to provide the title compound as a white solid, m.p. 138-145°C. ¹H NMR (CDCl₃): ppm δ 7.95 (d, 1H); 7.75 (m, 2H); 7.66 (m, 4H); 6.5 (bs, 1H); 6.0 (bs, 1H). IR (Nujol): 3367 (NH₂) cm⁻¹, 1649 (C=O) cm⁻¹.

EXAMPLE 9

<u>Preparation of 2-Chloro-4-(2-methyl-propyl)benzonitrile</u>

Under nitrogen, isobutylmagnesium chloride (8.6 mL, 10 2.0 M solution in diethyl ether) was added to a suspension of 2.3 g of zinc chloride in 40 mL of tetrahydrofuran. The mixture was stirred at ambient temperature for 45 minutes. To this mixture was then added 3.6 g of 2-chloro-4-bromo benzonitrile and 0.4 g of tetrakis(triphenylphosphine) palladium (O). 15 resulting mixture was stirred at ambient temperature for 12 h, and then heated at reflux for 2 h. mixture was then cooled to room temperature and acidified with 1 N aqueous hydrochloric acid. 20 mixture was then extracted two times with 50 mL of diethyl ether. The organic layer was washed each with 20 mL of saturated aqueous NaHCO3, water and brine. The diethyl ether extract was dried over magnesium.... sulfate and concentrated under reduced pressure to 25 provide crude product. The isolated crude product was purified by silica gel flash column chromatography (hexane:ethyl acetate 9:1) to provide after evaporation of eluant 2.12 g of the title compound as a clear oil; ¹H NMR (CDC1₃): ppm δ 7.57 (d, 1H); 7.3 (s, 1H); 7.15 30 (d, 1H); 2.51 (d, 2H); 1.9 (m, 1H); 0.91 (d, 6H); IR (Neat): $2210 (C \equiv N) cm^{-1}$.

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EXAMPLE 10

Preparation of 2-Chloro-4-(2-methyl-

propyl)benzamide

Using the same procedure described in Example 8,

0.97 g of product of Example 9 was reacted with 1.12 mL

30% aqueous hydrogen peroxide and 0.28 g potassium
carbonate in dimethylsulfoxide (8 mL). The isolated
crude product was washed with hexanes and dried under
vacuum to provide 0.8 g of the title compound as a

white solid, m.p. 97-107°C. 1H NMR (CDCl₃): ppm δ

7.74 (d, 1H); 7.2 (s, 1H); 7.125 (d, 1H); 6.43 (bs,
1H); 6.05 (bs, 1H); 2.48 (d, 2H); 1.9 (m, 1H); 0.91 (d,
6H). IR (Neat): 3375 (NH₂) cm⁻¹, 1647 (C=O) cm⁻¹.

Using the general procedures described in Schemes 15 1-17 and Examples 1-10 or by obvious modifications thereof, one skilled in the art can prepare the compounds of Tables 1-2.

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TABLE 1

$$R^3$$

 $R^1=C1$, $R^2=C(0)NH_2$ R^3 (CH₂)₂CH₃ (CH₂) 3CH₃ (CH₂)₄CH₃ (CH₂)₅CH₃ (CH₂) 6CH₃ (CH₂)₇CH₃ (CH₂) 8CH₃ (CH₂) 9CH₃ CH2CH (CH3)2 CH2C (CH3) 3 CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH (CH3) CH2CH2CH3 CH2CH (CH3) CH2CH2CH3 сн₂сн (сн₂сн₃) сн₂сн₃ CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CF2CH3 CH2~cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl

cyclobutyl cyclopentyl cyclohexyl CH₂OCH₂CH₃ CH2OCH2CH2CH3 CH2OCH2CH (CH3) 2 CH2OCH2 (C6H5) CH_2OCH_2 (3CF₃-C₆H₄) CH_2OCH_2 (2C1- C_6H_4) $CH_2OCH_2 (3SCH_3 - C_6H_4)$ $CH_2OCH_2(4C1-C_6H_4)$ $CH_2OCH_2(2, 4F-C_6H_3)$ CH2CH2OCH2CH2CH3 $CH_2O(C_6H_5)$ $CH_2O(3CF_3-C_6H_4)$ CH20 (4CF3-C6H4) CH2O(2C1-C6H4) $CH_{2}O(3SCH_{3}-C_{6}H_{4})$ CH2O (2CH3-C6H4) CH20 (4C1-C6H4) $CH_{2}O(2,4C1-C_{6}H_{3})$ CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH (CH3) 2 CH₂SCH₂ (C₆H₅) CH_2SCH_2 (3 CF_3 - C_6H_4) CH₂S (2C1-C₆H₄) CH2S (4CH3-C6H4)

CH₂S (2, 4C1-C₆H₃)

CH2S (3SCH3-C6H4) CH₂S (2,6C1-C₆H₃) CH2S (C6H5) $CH_2S(3CF_3-C_6H_4)$ CH2S (2C1-C6H4) CH2S (4CH3-C6H4) CH₂S (2,6C1-C₆H₃) CH₂S (2, 4C1-C₆H₃) CH2NHCH2CH3 CH2NHCH2CH2CH3 CH2NHCH2C (C6H5) CH2NHCH2CH (CH3) 2 $CH_2NHCH_2(3CF_3-C_6H_4)$ CH_2NHCH_2 (2C1- C_6H_4) $CH_2NH(C_6H_5)$ $CH_2NH(2C1-C_6H_4)$ $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH2 (CH2) 2CH3 осн₂ (Сн₂) ₃Сн₃ OCH2 (CH2) 5CH3 OCH2C (C6H5) OCH2CH2CH(CH3)2 OCH2-Si(CH3)3 OCH2 CH o-CH2 $OCH_2(3CF_3-C_6H_4)$ OCH₂ (2C1-C₆H₄) OCH2CH (CH3) 2

cyclopropyl

о (C ₆ н ₅)
O(3CF3-C6H4)
0 (2C1-C6H4)
O (4SCH3-C6H4)
O(2,4C1-C ₆ H ₃)
SCH2CH2CH3
SCH ₂ (CH ₂) ₂ CH ₃
SCH2 (CH2) 3CH3
SCH ₂ (CH ₂) ₅ CH ₃
SCH ₂ (C ₆ H ₅)
SCH2 (3SCH3-C6H4)
SCH ₂ (20CH ₃ -C ₆ H ₄)
SCH ₂ (2C1-C ₆ H ₄)
SCH ₂ (2, 4-C ₆ H ₃)
SCH ₂ (4CF ₃ -C ₆ H ₄)
S (CH ₃) 3
SCH2CH (CH3) 2
s (C ₆ H ₅)
S (3CF3-C6H4)
S (2C1-C6H4)
s (40CH3-C6H4)
$s(2,4C1-C_6H_3)$
S (2, 6F-C ₆ H ₃)
2 (3CH ₃ -C ₆ H ₄)
NHCH2CH2CH3
NHCH ₂ (CH ₂) ₂ CH ₃
NHCH ₂ (CH ₂) ₄ CH ₃
NHCH ₂ (CH ₂) ₅ CH ₃
NHCH2CH (CH3)2
инсн ₂ (С ₆ н ₅)
$NHCH_2$ (3CF ₃ -C ₆ H ₄)
NHCH ₂ (2C1-C ₆ H ₄)
NHCH ₂ (4CH ₃ -C ₆ H ₄)
$NHCH_2(2, 4C1-C_6H_3)$
$NHCH_2(2,6C1-C_6H_3)$

ин (C ₆ н ₅)
ин (3CF ₃ -С ₆ н ₄)
NH (2C1-C6H4)
NH (3CH3-C6H4)
NH (2, 4C1-C ₆ H ₃)
NH (2,6C1-C6H3)
N (CH ₃) (3CF ₃ -C ₆ H ₄)
и (СН3) СН2СН2СН3
и (CH ₂) ₄
и (CH ₂) ₅
N (CH ₂) 6
N (CH2CH2-OCH2CH2) 2
CH2CO2CH3
CH2CH2CO2CH2CH3
CH2CH2CO2CH3
CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
CH2CH2N (CH3) CH2CH3
CH=CH (CH ₃) ₂
CH2CH2CH=CH2
CH2CH=CH-CH3
CH=CH-CH ₂ CH ₂ -Cl
CH2CH2CH-C1CH2-C1
С ₆ н ₅
3CF3-C6H4
2C1-C ₆ H ₄
эсн _э -с ₆ н ₄
30CH ₃ -С ₆ Н ₄
2CF3-C6H4
2,4C1-C ₆ H ₃
2,6C1-C ₆ H ₃
2SCH3-C6H4
Сн ₂ (С ₆ н ₅)
CH ₂ (3CF ₃ -C ₆ H ₄)

```
CH2 (2C1-C6H4)
 CH2 (4C1-C6H4)
 CH<sub>2</sub> (2, 4C1-C<sub>6</sub>H<sub>3</sub>)
 СH<sub>2</sub> (3SCH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
 CH<sub>2</sub> (30CH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
 CH_2 (3C1-C_6H_4)
 CH<sub>2</sub> (2, 6F-C<sub>6</sub>H<sub>3</sub>)
 CH<sub>2</sub> (2,6C1-C<sub>6</sub>H<sub>3</sub>)
CH<sub>2</sub> (3, 4F-C<sub>6</sub>H<sub>3</sub>)
CH2-Si (CH3) 3
ON=C (CH3) 2
ON=CH (C6H5)
ON=C (CH3) C6H5
OCH<sub>2</sub> (2,6-C1-C<sub>6</sub>H<sub>3</sub>)
OCH2 (C=CH2) CH3
осн<sub>2</sub>-сң
4F-C6H4
4C1-C6H4
4Br-C6H4
2-pyridyl
2-furyl
2-thiazolyl
2-imidazolyl
0-2 (3CF<sub>3</sub>-C<sub>5</sub>H<sub>3</sub>N)
0-2C1-6CF3-C6H3
      R^{1}=Br, R^{2}=C(0)NH_{2}
\mathbb{R}^3
(CH<sub>2</sub>)<sub>2</sub>CH<sub>3</sub>
(CH<sub>2</sub>) 3CH<sub>3</sub>
(CH<sub>2</sub>) 4CH<sub>3</sub>
(CH<sub>2</sub>) 5CH<sub>3</sub>
(CH<sub>2</sub>) 6CH<sub>3</sub>
(CH2) 7CH3
```

(CH ₂) 8CH ₃
(CH ₂) ₉ CH ₃
CH ₂ CH (CH ₃) ₂
CH ₂ CH ₂ CH (CH ₃) ₂
$\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}$ (CH_3) 2
$\mathrm{CH}_2\mathrm{CH}_2\mathrm{CH}$ (CH_3) $\mathrm{CH}_2\mathrm{CH}_2\mathrm{CH}_3$
$\mathrm{CH_2CH}(\mathrm{CH_3})\mathrm{CH_2CH_2CH_3}$
CH2CH (CH2CH3) CH2CH3
CH2CH2CH2OCH2CH3
CH2CH2CH2CH2OCH3
CH2CH2CH2-S-CH2CH3
CH2CH2CH2CH2SCH3
CH2CH2CH2NHCH2CH3
CH2CF2CH (CH3)2
CH2CH2CH2CF2CH3
CH2-cyclopropyl
CH ₂ -cyclobutyl
CH2-cyclopenty1
CH2-cyclohexyl
cyclopropyl
cyclobutyl
cyclopentyl
cyclohexylenseement
сн ₂ осн ₂ сн ₃
CH2OCH2CH2CH3
CH2OCH2CH (CH3)2
CH ₂ OCH ₂ (C ₆ H ₅)
$CH_2OCH_2 (3CF_3-C_6H_4)$
$CH_2OCH_2(2C1-C_6H_4)$
CH ₂ OCH ₂ (3SCH ₃ -C ₆ H ₄)
CH ₂ OCH ₂ (4C1-C ₆ H ₄)
CH ₂ OCH ₂ (2, 4F-C ₆ H ₃)
CH2CH2OCH2CH2CH3
CH ₂ O (C ₆ H ₅)
CH ₂ O (3CF ₃ -C ₆ H ₄)

CH20 (4CF3-C6H4)
СH ₂ O (2C1-C ₆ H ₄)
СH ₂ O (3SCH ₃ -C ₆ H ₄)
СH ₂ O (2СH ₃ -С ₆ H ₄)
CH20 (4C1-C6H4)
CH ₂ O(2,4Cl-C ₆ H ₃)
сн ₂ scн ₂ cн ₃
сн ₂ scн ₂ cн ₂ cн ₃
CH2SCH2CH(CH3)2
сн ₂ \$Сн ₂ (С ₆ н ₅)
CH2SCH2 (3CF3-C6H4)
CH ₂ S (2C1-C ₆ H ₄)
CH2S (4CH3-C6H4)
CH ₂ S(2,4C1-C ₆ H ₃)
СH ₂ S (3SCH ₃ -С ₆ H ₄)
СН ₂ S(2,6C1-С ₆ Н ₃)
сн ₂ s (с ₆ н ₅)
CH ₂ S (3CF ₃ -C ₆ H ₄)
CH ₂ S (2C1-C ₆ H ₄)
CH ₂ S (4CH ₃ -C ₆ H ₄)
СH ₂ S(2,6C1-С ₆ H ₃)
CH ₂ S(2,4C1-C ₆ H ₃)
CH2NHCH2CH3
CH2NHCH2CH2CH3
CH2NHCH2C (C6H5)
CH2NHCH2CH (CH3) 2
CH ₂ NHCH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ NHCH ₂ (2C1-C ₆ H ₄)
СH ₂ NH (С ₆ H ₅)
CH ₂ NH (2C1-C ₆ H ₄)
CH ₂ N (CH ₃) (2C1-C ₆ H ₄)
OCH ₂ CH ₂ CH ₃
OCH ₂ (CH ₂) ₂ CH ₃
OCH ₂ (CH ₂) ₃ CH ₃
осн ₂ (сн ₂) ₅ сн ₃

```
осн<sub>2</sub>с (с<sub>6</sub>н<sub>5</sub>)
  OCH<sub>2</sub> (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
  OCH<sub>2</sub> (2C1-C<sub>6</sub>H<sub>4</sub>)
  OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
 O(C6H5)
 O(3CF3-C6H4)
 0 (2C1-C<sub>6</sub>H<sub>4</sub>)
 O(4SCH3-C6H4)
 O(2,4C1-C6H3)
 SCH2CH2CH3
 SCH<sub>2</sub> (CH<sub>2</sub>) <sub>2</sub>CH<sub>3</sub>
 scн<sub>2</sub> (сн<sub>2</sub>) <sub>з</sub>сн<sub>3</sub>
 SCH2 (CH2) 5CH3
 SCH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
 SCH2 (3SCH3-C6H4)
 SCH2 (20CH3-C6H4)
SCH2 (2C1-C6H4)
SCH2 (2,4-C6H3)
SCH2 (4CF3-C6H4)
S (CH<sub>3</sub>) 3
 SCH2CH (CH3) 2
s (C<sub>6</sub>H<sub>5</sub>)
S(3CF3=C6H4)
S (2C1-C6H4)
S (40CH3-C6H4)
S (2,4C1-C6H3)
S(2,6F-C<sub>6</sub>H<sub>3</sub>)
2 (3CH3-C6H4)
NHCH2CH2CH3
NHCH<sub>2</sub> (CH<sub>2</sub>) <sub>2</sub>CH<sub>3</sub>
NHCH<sub>2</sub> (CH<sub>2</sub>) 4CH<sub>3</sub>
NHCH<sub>2</sub> (CH<sub>2</sub>) 5CH<sub>3</sub>
NHCH2CH (CH3) 2
NHCH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
NHCH<sub>2</sub> (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
```

 $NHCH_2 (2C1-C_6H_4)$ $NHCH_2$ (4 CH_3 - C_6H_4) $NHCH_2$ (2, $4C1-C_6H_3$) $NHCH_2(2,6C1-C_6H_3)$ NH (C6H5) NH (3CF3-C6H4) NH (2C1-C6H4) NH (3CH3-C6H4) NH (2, 4C1-C6H3) $NH(2,6C1-C_6H_3)$ $N(CH_3)(3CF_3-C_6H_4)$ N (CH3) CH2CH2CH3 N (CH₂) 4 N (CH2) 5 N (CH2) 6 $N(CH_2CH_2-OCH_2CH_2)_2$ CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH2CH2N (CH3) CH2CH3 CH=CH (CH3) 2 CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH2CH2-C1 CH2CH2CH-C1CH2-C1 C₆H₅ 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4

2,6C1-C6H3 2SCH3-C6H4 CH₂ (C₆H₅) $CH_2 (3CF_3 - C_6H_4)$ CH2 (2C1-C6H4) CH2 (4C1-C6H4) $CH_2(2,4C1-C_6H_3)$ CH2 (3SCH3-C6H4) CH2 (30CH3-C6H4) $CH_2 (3C1-C_6H_4)$ CH₂ (2, 6F-C₆H₃) $CH_2(2,6C1-C_6H_3)$ CH₂ (3, 4F-C₆H₃) CH2-Si(CH3)3 ON=C (CH3) 2 ON=CH (C6H5) ON=C (CH3) C6H5 $OCH_2(2, 6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 оси₂-сн 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl 0-2 (3CF₃-C₅H₃N) O-2C1-6CF3-C6H3 $R^{1}=I$, $R^{2}=C(0)NH_{2}$ R3 (CH₂)₂CH₃ (CH₂) 3CH₃

(CH₂)₄CH₃ (CH₂)₅CH₃ (CH₂) 6CH₃ (CH₂) 7CH₃ (CH₂) 8CH₃ (CH₂) 9CH₃ СH₂CH (СH₃) ₂ CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH (CH3) CH2CH2CH3 CH2CH (CH3) CH2CH2CH3 CH2CH (CH2CH3) CH2CH3 CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH(CH3)2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH₂-cyclobutyl CH2-cyclopentyl CH₂-cyclohexyl cyclopropyl cyclobutyl cyclopenty1 cyclohexyl сн₂осн₂сн₃ CH2OCH2CH2CH3 CH2OCH2CH (CH3) 2 CH2OCH2 (C6H5) CH_2OCH_2 (3 $CF_3-C_6H_4$) $CH_2OCH_2 (2C1-C_6H_4)$ СH₂OСH₂ (3SСH₃-С₆H₄) CH2OCH2 (4C1-C6H4)

2,4C1-C6H3

$CH_2OCH_2(2, 4F-C_6H_3)$
CH2CH2OCH2CH2CH3
сн ₂ о (С ₆ н ₅)
CH ₂ O (3CF ₃ ~C ₆ H ₄)
$CH_2O(4CF_3-C_6H_4)$
$CH_{2}O(2C1-C_{6}H_{4})$
сн ₂ о (3SCH ₃ -С ₆ H ₄)
CH2O (2CH3-C6H4)
$CH_2O(4C1-C_6H_4)$
$CH_2O(2, 4C1-C_6H_3)$
CH2SCH2CH3
CH2SCH2CH2CH3
CH2SCH2CH (CH3) 2
$CH_2SCH_2(C_6H_5)$
CH_2SCH_2 (3CF3-C6H4)
CH ₂ S (2C1-C ₆ H ₄)
$CH_2S(4CH_3-C_6H_4)$
$CH_2S(2,4C1-C_6H_3)$
. CH ₂ S (3SCH ₃ -C ₆ H ₄)
$CH_2S(2,6C1-C_6H_3)$
CH ₂ S (C ₆ H ₅)
$CH_2S(3CF_3-C_6H_4)$
CH ₂ S.(2C1 _x C ₆ H ₄)
$CH_2S(4CH_3-C_6H_4)$
$CH_2S(2,6C1-C_6H_3)$
$CH_2S(2,4C1-C_6H_3)$
CH ₂ NHCH ₂ CH ₃
CH ₂ NHCH ₂ CH ₂ CH ₃
CH ₂ NHCH ₂ C (C ₆ H ₅)
CH ₂ NHCH ₂ CH (CH ₃) ₂
CH ₂ NHCH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ NHCH ₂ (2C1-C ₆ H ₄)
CH ₂ NH (C ₆ H ₅)
CH ₂ NH (2C1-C ₆ H ₄)
$CH_2N(CH_3)(2C1-C_6H_4)$

осн ₂ сн ₂ сн ₃
OCH ₂ (CH ₂) ₂ CH ₃
OCH ₂ (CH ₂) 3CH ₃
осн ₂ (сн ₂) ₅ сн ₃
осн ₂ с (с ₆ н ₅)
OCH ₂ (3CF ₃ -C ₆ H ₄)
OCH ₂ (2C1-C ₆ H ₄)
OCH ₂ CH (CH ₃) ₂
O(C ₆ H ₅)
O(3CF3-C6H4)
(2C1-C ₆ H ₄)
0(4SCH3-C6H4)
(2,4Cl-C ₆ H ₃)
SCH ₂ CH ₂ CH ₃
SCH ₂ (CH ₂) ₂ CH ₃
эсн ₂ (Сн ₂) _Э Сн ₃
эсн ₂ (сн ₂) ₅ сн ₃
эсн ₂ (С ₆ н ₅)
SCH ₂ (3SCH ₃ -C ₆ H ₄)
SCH ₂ (20СН ₃ -С ₆ Н ₄)
SCH ₂ (2Cl-C ₆ H ₄)
SCH ₂ (2, 4-C ₆ H ₃)
SCH ₂ (4CF ₃ =C ₆ H ₄)
G (CH ₃) 3
SCH ₂ CH (CH ₃) ₂
S(C ₆ H ₅)
6 (3CF ₃ -C ₆ H ₄)
S(2C1-C ₆ H ₄)
6 (40CH ₃ -C ₆ H ₄)
5(2,4C1-C ₆ H ₃)
6(2,6F-C ₆ H ₃)
?(3CH ₃ -C ₆ H ₄)
HCH2CH2CH3
NHCH ₂ (CH ₂) ₂ CH ₃
HCH ₂ (CH ₂) ₄ CH ₃

```
NHCH2 (CH2) 5CH3
 NHCH2CH (CH3)2
 инсн<sub>2</sub> (С<sub>6</sub>н<sub>5</sub>)
 NHCH<sub>2</sub> (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
NHCH2 (2C1-C6H4)
NHCH<sub>2</sub> (4CH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
NHCH_2(2, 4C1-C_6H_3)
NHCH<sub>2</sub> (2,6C1-C<sub>6</sub>H<sub>3</sub>)
NH (C<sub>6</sub>H<sub>5</sub>)
NH (3CF3-C6H4)
NH (2C1-C6H4)
NH (3CH3-C6H4)
NH (2, 4C1-C6H3)
NH (2,6C1-C6H3)
N(CH<sub>3</sub>) (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
N (CH<sub>3</sub>) CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>
N (CH<sub>2</sub>) 4
N (CH<sub>2</sub>) 5
N (CH<sub>2</sub>) 6
N(CH2CH2-OCH2CH2)2
CH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>
CH2CH2CO2CH2CH3
сн<sub>2</sub>сн<sub>2</sub>со<sub>2</sub>сн<sub>3</sub>
CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
CH2CH2N (CH3) CH2CH3
CH=CH (CH3) 2
CH2CH2CH=CH2
CH2CH=CH-CH3
CH=CH-CH2CH2-C1
CH2CH2CH-C1CH2-C1
С<sub>6</sub>н<sub>5</sub>
3CF3-C6H4
2C1-C6H4
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3CH3-C6H4
зосн ₃ -с ₆ н ₄
2CF3-C6H4
2,4C1-C6H3
2,6C1-C6H3
2SCH3-C6H4
CH ₂ (C ₆ H ₅)
CH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ (2C1-C ₆ H ₄)
CH ₂ (4C1-C ₆ H ₄)
CH ₂ (2, 4Cl-C ₆ H ₃)
CH2 (3SCH3-C6H4)
CH ₂ (30CH ₃ -C ₆ H ₄)
CH_2 (3C1- C_6H_4)
CH ₂ (2, 6F-C ₆ H ₃)
CH ₂ (2,6C1-C ₆ H ₃)
CH ₂ (3, 4F-C ₆ H ₃)
CH ₂ -Si (CH ₃) ₃
ON=C (CH ₃) ₂
$ON=CH(C_6H_5)$
$ON=C(CH_3)C_6H_5$
OCH ₂ (2, 6-C1-C ₆ H ₃)
OCH ₂ (C=CH ₂) CH ₃
OCH ₂ -CH CH ₂
`CH ₂
4F-C ₆ H ₄
4C1-C6H4
4Br-C ₆ H ₄

4F-C6H4

4Cl-C6H4

4Br-C6H4

2-pyridyl

2-furyl

2-thiazolyl

2-imidazolyl

0-2(3CF3-C5H3N)

0-2Cl-6CF3-C6H3

$R^1 = OCH_3, R^2 = C(0)NH_2$
R ³
(CH ₂) ₂ CH ₃
(CH ₂) ₃ CH ₃
(CH ₂) ₄ CH ₃
(CH ₂) ₅ CH ₃
(CH ₂) 6CH ₃
(CH ₂) 7CH ₃
(CH ₂) 8CH ₃
(CH ₂) ₉ CH ₃
СН ₂ СН (СН ₃) ₂
сн ₂ сн ₂ сн (сн ₃) ₂
СH ₂ CH ₂ CH ₂ CH (CH ₃) ₂
сн ₂ сн ₂ сн (сн ₃) сн ₂ сн ₂ сн
Сн ₂ Сн (Сн ₃) Сн ₂ Сн ₂ Сн ₃
СН ₂ СН (СН ₂ СН ₃) СН ₂ СН ₃
CH2CH2CH2OCH2CH3
сн ₂ сн ₂ сн ₂ сн ₂ осн ₃
сн ₂ сн ₂ сн ₂ -s-сн ₂ сн ₃
сн ₂ сн ₂ сн ₂ сн ₂ scн ₃
сн ₂ сн ₂ сн ₂ nнсн ₂ сн ₃
CH ₂ CF ₂ CH (CH ₃) ₂
CH2CH2CH2CF2CH3
CH2-cyclopropyl
CH ₂ -cyclobutyl
CH ₂ -cyclopentyl
CH ₂ -cyclohexyl
cyclopropyl
cyclobutyl
cyclopentyl
cyclohexyl
CH ₂ OCH ₂ CH ₃
СH ₂ OCH ₂ CH ₂ CH ₃
CH ₂ OCH ₂ CH (CH ₃) ₂
СH ₂ OСH ₂ (С ₆ H ₅)

СH₂OCH₂ (3CF₃-C₆H₄) СH₂OCH₂ (2С1-С₆H₄) CH_2OCH_2 (3SCH3-C6H4) CH_2OCH_2 (4C1- C_6H_4) $CH_2OCH_2(2,4F-C_6H_3)$ CH2CH2OCH2CH2CH3 CH2O(C6H5) CH2O (3CF3-C6H4) CH₂O(4CF₃-C₆H₄)CH2O (2C1-C6H4) CH2O (3SCH3-C6H4) CH2O (2CH3-C6H4) CH₂O(4Cl-C₆H₄) CH₂O(2,4Cl-C₆H₃) CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH(CH3)2 CH₂SCH₂ (C₆H₅) CH2SCH2 (3CF3-C6H4) CH₂S (2C1-C₆H₄) CH2S (4CH3-C6H4) CH₂S (2, 4C1-C₆H₃) СH₂S (3SCH₃-C₆H₄).. CH₂S (2,6Cl-C₆H₃) CH₂S (C₆H₅) $CH_2S(3CF_3-C_6H_4)$ CH2S (2C1-C6H4) CH2S (4CH3-C6H4) CH₂S (2, 6C1-C₆H₃) $CH_2S(2,4C1-C_6H_3)$ CH2NHCH2CH3 CH2NHCH2CH2CH3 CH2NHCH2C(C6H5) CH2NHCH2CH (CH3) 2 CH_2NHCH_2 (3CF₃-C₆H₄)

 $CH_2NHCH_2(2C1-C_6H_4)$ $CH_2NH(C_6H_5)$ CH2NH (2C1-C6H4) $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH₂ (CH₂)₂CH₃ OCH2 (CH2) 3CH3 OCH2 (CH2) 5CH3 OCH2C (C6H5) OCH2 (3CF3-C6H4) $OCH_2(2C1-C_6H_4)$ OCH2CH (CH3) 2 O(C6H5) O(3CF3-C6H4) O(2C1-C6H4) O (4SCH3-C6H4) O(2,4C1-C6H3) SCH2CH2CH3 SCH2 (CH2) 2CH3 SCH2 (CH2) 3CH3 SCH2 (CH2) 5CH3 SCH2 (C6H5) SCH2 (3SCH3-C6H4) SCH2 (20CH3-C6H4) SCH2 (2C1-C6H4) SCH2 (2, 4-C6H3) SCH2 (4CF3-C6H4) S (CH3) 3 SCH2CH (CH3) 2 S (C6H5) S (3CF3-C6H4) S (2C1-C6H4) S (40CH3-C6H4) S(2,4C1-C6H3)

2 (3CH3-C6H4) NHCH2CH2CH3 инсн₂ (сн₂) ₂сн₃ NHCH2 (CH2) 4CH3 NHCH₂ (CH₂) ₅CH₃ NHCH₂CH (CH₃)₂ $NHCH_2(C_6H_5)$ NHCH₂ (3CF₃-C₆H₄) NHCH₂ (2C1-C₆H₄) NHCH2 (4CH3-C6H4) $NHCH_2(2, 4C1-C_6H_3)$ $NHCH_2(2,6C1-C_6H_3)$ ин (С_бн₅) NH (3CF3-C6H4) NH (2C1-C6H4) NH (3CH3-C6H4) NH (2, 4C1-C6H3) NH (2,6C1-C6H3) $N(CH_3)(3CF_3-C_6H_4)$ N(CH3)CH2CH2CH3 N (CH₂) 4 N (CH₂) 5 N (CH₂) 6 - - * * * * * * * * * $N(CH_2CH_2-OCH_2CH_2)_2$ CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH2CH2N (CH3) CH2CH3 CH=CH (CH₃)₂ CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH2CH2-C1

CH2CH2CH-C1CH2-C1 C₆H₅ 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6Cl-C6H3 2SCH3-C6H4 CH₂ (C₆H₅) $CH_2 (3CF_3 - C_6H_4)$ CH₂ (2C1-C₆H₄) CH₂ (4C1-C₆H₄) CH2 (2, 4C1-C6H3) CH2 (3SCH3-C6H4) CH₂ (30CH₃-C₆H₄) CH2 (3C1-C6H4) CH₂ (2, 6F-C₆H₃) CH₂ (2,6C1-C₆H₃) CH₂ (3, 4F-C₆H₃) CH2-S1 (CH3) 3 $ON=CH(C_6H_5)$ ом=С (СH₃) С₆H₅ OCH₂ (2, 6-C1-C₆H₃) OCH₂ (C=CH₂) CH₃ OCH2-CH 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl

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S(2,6F-C6H3)

2-imidazolyl	CH ₂ OCH ₂ CH ₃	CH2NHCH2CH2CH3
0-2 (3CF ₃ -C ₅ H ₃ N)	CH ₂ OCH ₂ CH ₂ CH ₃	CH ₂ NHCH ₂ C (C ₆ H ₅)
0-2C1-6CF ₃ -C ₆ H ₃	СH ₂ OCH ₂ CH (СH ₃) ₂	СH ₂ NHCH ₂ CH (СH ₃) ₂
	сн ₂ осн ₂ (с ₆ н ₅)	CH2NHCH2 (3CF3-C6H4)
$R^1 = OCF_2H$, $R^2 = C(0)NH_2$	CH2OCH2 (3CF3-C6H4)	CH2NHCH2 (2C1-C6H4)
₿ ³	CH ₂ OCH ₂ (2C1-C ₆ H ₄)	CH ₂ NH (C ₆ H ₅)
(CH ₂) ₂ CH ₃	CH2OCH2 (3SCH3-C6H4)	CH2NH (2C1~C6H4)
(CH ₂) 3CH ₃	CH2OCH2 (4C1-C6H4)	CH ₂ N (CH ₃) (2C1-C ₆ H ₄)
(CH ₂) 4CH ₃	CH2OCH2 (2, 4F-C6H3)	осн ₂ сн ₂ сн ₃
(CH ₂) 5CH ₃	сн ₂ сн ₂ осн ₂ сн ₂ сн ₃	осн ₂ (сн ₂) ₂ сн ₃
(CH ₂) 6CH ₃	CH ₂ O (C ₆ H ₅)	OCH ₂ (CH ₂) 3CH ₃
(CH ₂) ₇ CH ₃	CH20 (3CF3-C6H4)	осн ₂ (сн ₂) ₅ сн ₃
(CH ₂) ₈ CH ₃	CH ₂ O(4CF ₃ -C ₆ H ₄)	осн ₂ с (с ₆ н ₅)
(CH ₂) ₉ CH ₃	CH ₂ O(2C1-C ₆ H ₄)	осн ₂ (3CF ₃ -C ₆ H ₄)
СH ₂ CH (СH ₃) ₂	CH2O (3SCH3-C6H4)	OCH ₂ (2C1-C ₆ H ₄)
СH ₂ CH ₂ CH (СH ₃) ₂	CH2O (2CH3-C6H4)	осн ₂ сн (сн ₃) 2
CH2CH2CH2CH(CH3)2	CH ₂ O (4C1-C ₆ H ₄)	o(C ₆ H ₅)
$\text{CH}_2\text{CH}_2\text{CH} (\text{CH}_3) \text{CH}_2\text{CH}_2\text{CH}_3$	CH ₂ O(2,4C1-C ₆ H ₃)	0(3CF ₃ -C ₆ H ₄)
СH ₂ CH (СH ₃) СH ₂ CH ₂ CH ₃	CH2SCH2CH3	O(2C1-C6H4)
$\mathrm{CH}_2\mathrm{CH}$ ($\mathrm{CH}_2\mathrm{CH}_3$) $\mathrm{CH}_2\mathrm{CH}_3$	CH2SCH2CH2CH3	0 (4SCH3-C6H4)
сн ₂ сн ₂ сн ₂ осн ₂ сн ₃	CH2SCH2CH (CH3) 2	O(2,4C1-C6H3)
сн ₂ сн ₂ сн ₂ сн ₂ осн ₃	сн ₂ sсн ₂ (с ₆ н ₅)	SCH2CH2CH3
$\mathtt{CH_2CH_2CH_2-S-CH_2CH_3} \\$	сн ₂ scн ₂ (зсг ₃ -с ₆ н ₄)	SCH ₂ (CH ₂) ₂ CH ₃
сн ₂ сн ₂ сн ₂ сн ₂ scн ₃	CH ₂ S (2C1-C ₆ H ₄)	scн ₂ (сн ₂) ₃ сн ₃
CH2CH2CH2NHCH2CH3	сн ₂ s (4сн ₃ -с ₆ н ₄)	scн ₂ (сн ₂) ₅ сн ₃
CH2CF2CH(CH3)2	CH ₂ S (2, 4C1-C ₆ H ₃)	scн ₂ (с ₆ н ₅)
CH2CH2CH2CF2CH3	СH ₂ S (3SCH ₃ -С ₆ H ₄)	sch ₂ (3sch ₃ -с ₆ н ₄)
CH2-cyclopropyl	CH ₂ S(2,6C1-С ₆ H ₃)	SCH ₂ (20CH ₃ -C ₆ H ₄)
CH ₂ -cyclobutyl	CH ₂ S (C ₆ H ₅)	SCH ₂ (2C1-C ₆ H ₄)
CH2-cyclopentyl	CH ₂ S (3CF ₃ -C ₆ H ₄)	SCH ₂ (2, 4-C ₆ H ₃)
CH2-cyclohexyl	CH ₂ S (2C1-C ₆ H ₄)	SCH ₂ (4CF ₃ -C ₆ H ₄)
cyclopropyl	CH2S (4CH3-C6H4)	s (CH ₃) ₃
cyclobutyl	CH ₂ S(2,6C1-C ₆ H ₃)	SCH ₂ CH (CH ₃) ₂
cyclopentyl	CH ₂ S(2,4Cl-C ₆ H ₃)	s (C ₆ H ₅)
cyclohexyl	CH2NHCH2CH3	S(3CF3-C6H4)

s (2C1-C ₆ H ₄)
S (40CH3-C6H4)
s(2,4C1-C6H3)
S(2,6F-C ₆ H ₃)
2 (3CH ₃ -C ₆ H ₄)
NHCH2CH2CH3
NHCH ₂ (CH ₂) ₂ CH ₃
NHCH ₂ (CH ₂) ₄ CH ₃
NHCH ₂ (CH ₂) ₅ CH ₃
NHCH2CH (CH3)2
NHCH ₂ (C ₆ H ₅)
$\mathrm{NHCH}_{2}\left(\mathrm{3CF}_{3}\mathrm{-C}_{6}\mathrm{H}_{4}\right)$
$NHCH_2$ (2C1-C ₆ H ₄)
NHCH ₂ (4CH ₃ -C ₆ H ₄)
$NHCH_2(2, 4C1-C_6H_3)$
$NHCH_2(2,6C1-C_6H_3)$
ин (С ₆ н ₅)
NH (3CF ₃ -C ₆ H ₄)
NH (2C1-C ₆ H ₄)
NH (3CH ₃ -C ₆ H ₄)
NH (2, 4C1-C ₆ H ₃)
$NH(2,6C1-C_6H_3)$
N(CH ₃) (3CF ₃ -C ₆ H ₄) ····
N(CH ₃)CH ₂ CH ₂ CH ₃
N(CH ₂) ₄
N (CH ₂) 5
N (CH ₂) 6
N (CH ₂ CH ₂ -OCH ₂ CH ₂) ₂
CH ₂ CO ₂ CH ₃
CH2CH2CO2CH2CH3
CH2CH2CO2CH3
CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH ₂ CH ₂ -NHCH ₂ CH ₃

CH2CH2N (CH3) CH2CH3

сн=сн (сн ₃) 2
CH2CH2CH=CH2
сн ₂ сн=сн-сн ₃
CH=CH-CH ₂ CH ₂ -Cl
CH2CH2CH-C1CH2-C1
С ₆ н ₅
3CF3-C6H4
2C1-C6H4
3CH3-C6H4
30CH3-C6H4
2CF3-C6H4
2,4C1-C6H3
2,6Cl-С ₆ H3
2SCH ₃ -С ₆ Н ₄
СH ₂ (С ₆ H ₅)
CH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ (2C1-C ₆ H ₄)
CH ₂ (4C1-C ₆ H ₄)
CH ₂ (2,4C1-C ₆ H ₃)
CH ₂ (3SCH ₃ -C ₆ H ₄)
СH ₂ (ЗОСН ₃ -С ₆ Н ₄)
CH ₂ (3C1-C ₆ H ₄)
CH ₂ (2, 6F-C ₆ H ₃) ·······
CH ₂ (2,6C1-C ₆ H ₃)
CH ₂ (3, 4F-C ₆ H ₃)
CH ₂ -Si (CH ₃) 3
ON=C (CH ₃) ₂
ON=CH (C ₆ H ₅)
ON=C (CH ₃) C ₆ H ₅
OCH ₂ (2, 6-C1-C ₆ H ₃)
OCH ₂ (C=CH ₂) CH ₃
CH ₂ -CH ₂
IF-C6H4
ICI-C6H4

```
4Br-C6H4
  2-pyridyl ....
  2-furyl
  2-thiazolyl
  2-imidazolyl
  0-2 (3CF<sub>3</sub>-C<sub>5</sub>H<sub>3</sub>N)
 O-2C1-6CF3-C6H3
      R^1=NO_2, R^2=C(0)NH_2
 R3
  (CH_2)_2CH_3
  (CH<sub>2</sub>) 3CH<sub>3</sub>
  (CH_2)_4CH_3
  (CH<sub>2</sub>) 5CH<sub>3</sub>
 (CH<sub>2</sub>) 6CH<sub>3</sub>
 (CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>
 (CH<sub>2</sub>) 8CH<sub>3</sub>
 (CH<sub>2</sub>) 9CH<sub>3</sub>
 СH<sub>2</sub>CH (СH<sub>3</sub>)<sub>2</sub>
 СH<sub>2</sub>С (СH<sub>3</sub>) 3
CH2CH2CH(CH3)2
CH2CH2CH2CH(CH3)2
сн<sub>2</sub>сн<sub>2</sub>ен (сн<sub>3</sub>) ен<sub>2</sub>ен<sub>2</sub>ен<sub>3</sub>
СH<sub>2</sub>CH (СH<sub>3</sub>) СH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>
CH<sub>2</sub>CH (CH<sub>2</sub>CH<sub>3</sub>) CH<sub>2</sub>CH<sub>3</sub>
CH2CH2CH2OCH2CH3
CH2CH2CH2CH2OCH3
сн<sub>2</sub>сн<sub>2</sub>сн<sub>2</sub>-s-сн<sub>2</sub>сн<sub>3</sub>
CH2CH2CH2CH2SCH3
CH2CH2CH2NHCH2CH3
CH2CF2CH(CH3)2
CH2CH2CH2CF2CH3
CH2-cyclopropyl
CH<sub>2</sub>-cyclobutyl
CH<sub>2</sub>-cyclopentyl
```

CH2S (2C1-C6H4)
СH ₂ S (4CH ₃₇ C ₆ H ₄)
сн ₂ s (2, 6С1-С6Н3)
CH2S (2, 4C1-C6H3)
сн ₂ инсн ₂ сн ₃
сн ₂ инсн ₂ сн ₂ сн ₃
сн ₂ инсн ₂ с (с ₆ н ₅)
сн ₂ инсн ₂ сн (сн ₃) 2
сн ₂ инсн ₂ (ЗСГ ₃ -С ₆ н ₄)
сн ₂ инсн ₂ (2С1-С ₆ н ₄)
сн ₂ ин (С ₆ н ₅)
CH ₂ NH (2C1-С ₆ H ₄)
CH ₂ N (CH ₃) (2C1-C ₆ H ₄)
осн ₂ сн ₂ сн ₃
осн ₂ (сн ₂) ₂ сн ₃
осн ₂ (сн ₂) ₃ сн ₃
осн ₂ (сн ₂) ₅ сн ₃
осн ₂ с (с ₆ н ₅)
OCH ₂ CH ₂ CH (CH ₃) ₂
OCH ₂ -si (CH ₃) 3
OCH- CH
OCH ₂ CH OCH ₂
OCH ₂ (3CF ₃ -C ₆ H ₄)
OCH ₂ (2C1-C ₆ H ₄)
осн ₂ сн (Сн ₃) ₂
о (С ₆ н ₅)
o(3CF3-C6H4)
0 (2C1-C ₆ H ₄)
о (4SCH3-C6H4)
O(2,4C1-C ₆ H ₃)
SCH2CH2CH3
SCH ₂ (CH ₂) ₂ CH ₃
SCH ₂ (CH ₂) 3CH ₃
SCH ₂ (CH ₂) ₅ CH ₃

```
SCH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
 SCH2 (3SCH3-C6H4)
 SCH2 (20CH3-C6H4)
 SCH<sub>2</sub> (2C1-C<sub>6</sub>H<sub>4</sub>)
 SCH<sub>2</sub> (2,4-C<sub>6</sub>H<sub>3</sub>)
 SCH2 (4CF3-C6H4)
 S (CH<sub>3</sub>) 3
 SCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
 S(C6H5)
s (3CF3-C6H4)
 s(2Cl-C_6H_4)
 s (40CH3-C6H4)
 S(2,4C1-C6H3)
S(2,6F-C6H3)
2 (3CH3-C6H4)
NHCH2CH2CH3
инсн<sub>2</sub> (сн<sub>2</sub>) <sub>2</sub>сн<sub>3</sub>
NHCH<sub>2</sub> (CH<sub>2</sub>) <sub>4</sub>CH<sub>3</sub>
NHCH<sub>2</sub> (CH<sub>2</sub>) <sub>5</sub>CH<sub>3</sub>
NHCH2CH (CH3) 2
инсн<sub>2</sub> (С<sub>6</sub>н<sub>5</sub>)
NHCH<sub>2</sub> (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
NHCH<sub>2</sub> (2C1-C<sub>6</sub>H<sub>4</sub>)--
NHCH<sub>2</sub> (4CH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
NHCH<sub>2</sub> (2, 4C1-C<sub>6</sub>H<sub>3</sub>)
инсн<sub>2</sub> (2, 6С1-С6н<sub>3</sub>)
NH (C6H5)
NH (3CF3-C6H4)
NH (2C1-C6H4)
NH (3CH3-C6H4)
NH (2, 4C1-C6H3)
NH (2, 6C1-C6H3)
N(CH_3)(3CF_3-C_6H_4)
N(CH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>
N (CH<sub>2</sub>) 4
```

CH2S (3CF3-C6H4)

N (CH2) 5 N(CH2)6 $N(CH_2CH_2-OCH_2CH_2)_2$ CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH2CH2N (CH3) CH2CH3 CH=CH(CH₃)₂ CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH2CH2-Cl CH2CH2CH-C1CH2-C1 C₆H₅ 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6C1-C6H3 2SCH3-C6H4 CH2 (C6H5) $CH_2 (3CF_3 - C_6H_4)$ CH2 (2C1-C6H4) CH2 (4C1-C6H4) $CH_2(2, 4C1-C_6H_3)$ CH2 (3SCH3-C6H4) CH_2 (30 $CH_3 - C_6H_4$) CH2 (3C1-C6H4) $CH_2(2,6F-C_6H_3)$ CH₂ (2, 6C1-C₆H₃)

CH2-Si (CH3) 3 $ON=C(CH_3)_2...$ $ON=CH(C_6H_5)$ $ON=C(CH_3)C_6H_5$ $OCH_2(2, 6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 осн₂-сн 4F-C₆H₄ 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl O-2 (3CF3-C5H3N) 0-2C1-6CF3-C6H3 R^1 =C1, R^2 =C=N R3 (CH2) 2CH3 (CH₂) 3CH₃ (CH₂) 4CH₃ (CH₂) 5CH₃ (CH₂) 6CH₃ (CH₂) 7CH₃ (CH₂) 8CH₃ (CH₂) 9CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH (CH3) CH2CH2CH3 CH2CH (CH3) CH2CH2CH3 CH2CH (CH2CH3) CH2CH3 CH2CH2CH2OCH2CH3

CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3... CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH(CH3)2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH (CH3) 2 CH2OCH2 (C6H5) CH_2OCH_2 (3CF₃-C₆H₄) CH_2OCH_2 (2C1- C_6H_4) CH_2OCH_2 (3SCH₃-C₆H₄) $CH_2OCH_2(4C1-C_6H_4)$ CH_2OCH_2 (2, 4F= C_6H_3)~ CH2CH2OCH2CH2CH3 CH₂O (C₆H₅) $CH_{2}O(3CF_{3}-C_{6}H_{4})$ CH2O (4CF3-C6H4) CH20 (2C1-C6H4) CH20 (3SCH3-C6H4) CH2O (2CH3-C6H4) CH2O (4C1-C6H4) $CH_2O(2, 4C1-C_6H_3)$ CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH(CH3)2

 $CH_2(3, 4F-C_6H_3)$

CH2SCH2 (C6H5)
CH2SCH2 (3CF3-C6H4
CH2S (2C1-C6H4)
CH ₂ S (4CH ₃ -C ₆ H ₄)
CH ₂ S(2,4C1-C ₆ H ₃)
CH2S (3SCH3-C6H4)
CH2S(2,6C1-C6H3)
CH ₂ S (C ₆ H ₅)
CH ₂ S (3CF ₃ -C ₆ H ₄)
CH ₂ S (2C1-C ₆ H ₄)
CH ₂ S (4CH ₃ -C ₆ H ₄)
CH ₂ S(2,6C1-C ₆ H ₃)
CH ₂ S (2, 4C1-C ₆ H ₃)
CH2NHCH2CH3
CH2NHCH2CH2CH3
$CH_2NHCH_2C(C_6H_5)$
CH2NHCH2CH (CH3) 2
CH2NHCH2 (3CF3-C6H
CH2NHCH2 (2C1-C6H4)
CH ₂ NH (C ₆ H ₅)
CH ₂ NH (2C1-C ₆ H ₄)
CH ₂ N (CH ₃) (2C1-C ₆ H ₂
OCH2CH2CH3
OCH ₂ (CH ₂) ₂ CH ₃
OCH ₂ (CH ₂) ₃ CH ₃
осн ₂ (сн ₂) ₅ сн ₃
och ₂ c(c ₆ h ₅)
OCH ₂ (3CF ₃ -C ₆ H ₄)
OCH ₂ (2C1-C ₆ H ₄)
OCH ₂ CH (CH ₃) ₂
O(C ₆ H ₅)
O(3CF ₃ -C ₆ H ₄)
0 (2C1-C ₆ H ₄)
O(4SCH3-C6H4)

	scн ₂ сн ₂ сн ₃
	scн ₂ (сн ₂) ₂ сн ₃
	scн ₂ (сн ₂) ₃ сн ₃
	scн ₂ (сн ₂) ₅ сн ₃
	scн ₂ (с _б н ₅)
i	scн ₂ (эscн ₃ -с ₆ н ₄)
	SCH2 (20CH3-C6H4)
	SCH ₂ (2C1-C ₆ H ₄)
I	SCH ₂ (2, 4-С ₆ H ₃)
	SCH ₂ (4CF ₃ -C ₆ H ₄)
	S (CH ₃) 3
	SCH ₂ CH (CH ₃) ₂
	s (C ₆ H ₅)
I	s (3CF ₃ -C ₆ H ₄)
ı	s (2C1-C ₆ H ₄)
ļ	s (40CH3-C6H4)
ı	S (2, 4C1-C ₆ H ₃)
I	S(2,6F-C ₆ H ₃)
l	2 (3CH ₃ -C ₆ H ₄)
ŀ	NHCH ₂ CH ₂ CH ₃
ľ	NHCH ₂ (CH ₂) ₂ CH ₃
l	NHCH ₂ (CH ₂) ₄ CH ₃
ł	инсн ₂ (сн ₂) ₅ сн ₃
ı	NHCH ₂ CH (CH ₃) ₂
ı	NHCH ₂ (С ₆ H ₅)
	NHCH ₂ (3CF ₃ -C ₆ H ₄)
	NHCH ₂ (2C1-C ₆ H ₄)
	NHCH ₂ (4CH ₃ -C ₆ H ₄)
l	NHCH ₂ (2, 4C1-C ₆ H ₃)
	NHCH ₂ (2, 6C1-C ₆ H ₃)
	VH (С6Н5)
	NH (3CF ₃ -C ₆ H ₄)
	NH (2C1-C ₆ H ₄)
	NH (3CH ₃ -C ₆ H ₄)
1	NH (2, 4C1-C ₆ H ₃)

```
NH (2,6C1-C6H3)
 N(CH<sub>3</sub>) (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
 N(CH3)CH2CH2CH3
 N (CH<sub>2</sub>) 4
 N (CH<sub>2</sub>) 5
 N(CH<sub>2</sub>)6
 N(CH2CH2-OCH2CH2)2
 CH2CO2CH3
 CH2CH2CO2CH2CH3
 CH2CH2CO2CH3
 CH2CH2OCH2CH3
 CH2CH2SCH2CH3
 CH2CH2-NHCH2CH3
 CH2CH2N(CH3)CH2CH3
CH=CH (CH<sub>3</sub>)<sub>2</sub>
 CH2CH2CH=CH2
 CH2CH=CH-CH3
CH=CH-CH2CH2-C1
CH2CH2CH-C1CH2-C1
C<sub>6</sub>H<sub>5</sub>
 3CF3-C6H4
2C1-C6H4
3CH3-C6H4-
30CH3-C6H4
2CF3-C6H4
2,4C1-C6H3
2,6C1-C6H3
25CH3-C6H4
CH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
CH<sub>2</sub> (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
CH<sub>2</sub> (2C1-C<sub>6</sub>H<sub>4</sub>)
CH<sub>2</sub> (4C1-C<sub>6</sub>H<sub>4</sub>)
CH<sub>2</sub> (2, 4C1-C<sub>6</sub>H<sub>3</sub>)
СH<sub>2</sub> (3SCH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
CH2 (30CH3-C6H4)
```

 $0(2,4C1-C_6H_3)$

CH₂ (3C1-C₆H₄)
CH₂ (2, 6F-C₆H₃)
CH₂ (2, 6C1-C₆H₃)
CH₂ (3, 4F-C₆H₃)
CH₂-Si (CH₃) 3
ON=C (CH₃) 2
ON=CH (C₆H₅)
ON=C (CH₃) C₆H₅
OCH₂ (2, 6-C1-C₆H₃)
OCH₂ (C=CH₂) CH₃
OCH₂-CH
CH₂
CH₂
CH₂

4F-C₆H₄
4C1-C₆H₄
4Br-C₆H₄
2-pyridyl
2-furyl
2-thiazolyl
2-imidazolyl
0-2(3CF₃-C₅H₃N)

0-2C1-6CF3-C6H3

R¹=Br, R²=C≡N

R³
(CH₂)₂CH₃
(CH₂)₃CH₃
(CH₂)₄CH₃
(CH₂)₅CH₃
(CH₂)₆CH₃
(CH₂)₇CH₃
(CH₂)₈CH₃
(CH₂)₉CH₃
CH₂CH₂CH₂CH₂CH₂CH₂CH₃)₂
CH₂CH₂CH₂CH₂CH₂CH₃)₂

CH2CH2CH (CH3) CH2CH2CH3 CH₂CH (CH₃) CH₂CH₂CH₃ CH₂CH (CH₂CH₃) CH₂CH₃ CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH₂CH₂CH₂CH₂SCH₃ CH2CH2CH2NHCH2CH3 CH2CF2CH(CH3)2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH2-cyclobutyl CH₂-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH(CH3)2 CH2OCH2 (C6H5) CH_2OCH_2 (3CF.3- C_6H_4) CH_2OCH_2 (2C1- C_6H_4) CH_2OCH_2 (3SCH3-C6H4) CH_2OCH_2 (4C1- C_6H_4) CH_2OCH_2 (2, 4F-C₆H₃) CH2CH2OCH2CH2CH3 CH₂O (C₆H₅) $CH_2O(3CF_3-C_6H_4)$ $CH_2O(4CF_3-C_6H_4)$ CH20 (2C1-C6H4) CH20 (3SCH3-C6H4)

CH₂O (2CH₃-C₆H₄)

CH2O (4C1-C6H4)

 $CH_2O(2, 4C1-C_6H_3)$ CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH (CH3) 2 CH2SCH2 (C6H5) CH_2SCH_2 (3 CF_3 - C_6H_4) CH2S (2C1-C6H4) CH2S (4CH3-C6H4) $CH_2S(2,4C1-C_6H_3)$ CH₂S (3SCH₃-C₆H₄) CH₂S (2,6C1-C₆H₃) CH₂S (C₆H₅) CH₂S (3CF₃-C₆H₄) CH2S (2C1-C6H4) CH₂S (4CH₃-C₆H₄) CH₂S (2, 6C1-C₆H₃) CH₂S (2, 4C1-C₆H₃) CH2NHCH2CH3 CH2NHCH2CH2CH3 CH2NHCH2C(C6H5) CH2NHCH2CH (CH3) 2 CH_2NHCH_2 (3 $CF_3-C_6H_4$) $CH_2NHCH_2.(2C1-C_6H_4).$ CH2NH (C6H5) CH2NH (2C1-C6H4) $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH2 (CH2) 2CH3 осн₂ (сн₂) ₃сн₃ OCH2 (CH2) 5CH3 OCH2C (C6H5) $OCH_2(3CF_3-C_6H_4)$ $OCH_2(2C1-C_6H_4)$ OCH2CH(CH3)2 O(C6H5)

O(3CF3-C6H4)
O(2C1-C6H4)
O(4SCH3-C6H4)
O(2,4C1-C6H3)
sch ₂ ch ₂ ch ₃
SCH2 (CH2) 2CH3
SCH ₂ (CH ₂) 3CH ₃
SCH ₂ (CH ₂) 5CH ₃
SCH ₂ (C ₆ H ₅)
scH2 (3SCH3-C6H4)
SCH2 (20CH3-C6H4)
SCH2 (2C1-C6H4)
SCH ₂ (2, 4-C ₆ H ₃)
SCH ₂ (4CF ₃ -C ₆ H ₄)
s (CH ₃) 3
SCH2CH(CH3)2
s (C ₆ H ₅)
S(3CF3-C6H4)
S(2C1-C6H4)
S (40CH3-C6H4)
S(2,4C1-C6H3)
S(2,6F-C ₆ H ₃)
2-(3CH ₃ -C ₆ H ₄)
NHCH2CH2CH3
$\mathrm{NHCH_2}\left(\mathrm{CH_2}\right)_2\mathrm{CH_3}$
NHCH ₂ (CH ₂) ₄ CH ₃
NHCH ₂ (CH ₂) ₅ CH ₃
NHCH ₂ CH (CH ₃) ₂
NHCH ₂ (C ₆ H ₅)
$NHCH_2\left(3CF_3-C_6H_4\right)$
$NHCH_2$ (2C1-C ₆ H ₄)
NHCH ₂ (4CH ₃ -C ₆ H ₄)
$NHCH_2$ (2, $4C1-C_6H_3$)
$NHCH_2$ (2,6C1-C ₆ H ₃)
NH (C ₆ H ₅)

NH (3CF3-C6H4)
NH (2C1-C ₆ H ₄)
NH (3CH ₃ -C ₆ H ₄)
NH(2,4C1-C ₆ H ₃)
NH(2,6C1-C6H3)
N(CH ₃) (3CF ₃ -C ₆ H ₄)
n (CH3) CH2CH2CH3
N (CH ₂) ₄
N(CH ₂) ₅
N (CH ₂) 6
N(CH2CH2-OCH2CH2)2
CH2CO2CH3
CH2CH2CO2CH2CH3
CH ₂ CH ₂ CO ₂ CH ₃
CH ₂ CH ₂ OCH ₂ CH ₃
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
Сн ₂ сн ₂ и (Сн ₃) сн ₂ сн ₃
CH-CH (CH ₃) ₂
CH2CH2CH=CH2
CH ₂ CH=CH-CH ₃
CH=CH-CH ₂ CH ₂ -C1
CH ₂ CH ₂ CH-C1CH ₂ -C1
C ₆ H ₅
3CF3-C6H4
2C1-C6H4
3CH3-C6H4
BOCH ₃ -C ₆ H ₄
CF3-C6H4
2,4C1-C ₆ H ₃
2,6C1-C ₆ H ₃
SCH3-C6H4
CH ₂ (C ₆ H ₅)
CH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ (2C1-C ₆ H ₄)

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CH2 (4C1-C6H4)
 CH<sub>2</sub> (2,4C1-C<sub>6</sub>H<sub>3</sub>)
 CH2 (35CH3-C6H4)
 CH<sub>2</sub> (30CH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
 CH<sub>2</sub> (3C1-C<sub>6</sub>H<sub>4</sub>)
 CH<sub>2</sub> (2, 6F-C<sub>6</sub>H<sub>3</sub>)
 CH<sub>2</sub> (2,6Cl-C<sub>6</sub>H<sub>3</sub>)
 CH<sub>2</sub> (3, 4F-C<sub>6</sub>H<sub>3</sub>)
 CH2-Si (CH3) 3
 ON=C (CH3) 2
 ON=CH (C6H5)
 ON=C(CH_3)C_6H_5
 OCH_2(2, 6-C1-C_6H_3)
 OCH<sub>2</sub> (C=CH<sub>2</sub>) CH<sub>3</sub>
 OCH2-CH
4F-C6H4
4C1-C6H4
4Br-C6H4
2-pyridyl
2-furyl
2-thiazolyl
2-imidazólýl
0-2 (3CF<sub>3</sub>-C<sub>5</sub>H<sub>3</sub>N)
0-2C1-6CF3-C6H3
            R^1=I, R^2=C=N
RЗ
 (CH<sub>2</sub>)<sub>2</sub>CH<sub>3</sub>
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 (CH<sub>2</sub>) 4CH<sub>3</sub>
 (CH<sub>2</sub>) 5CH<sub>3</sub>
 (CH<sub>2</sub>) 6CH<sub>3</sub>
 (CH<sub>2</sub>) 7CH<sub>3</sub>
 (CH<sub>2</sub>) 8CH<sub>3</sub>
```

(CH₂) ₉CH₃ CH2CH (CH3) 2 . CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH (CH3) CH2CH2CH3 CH2CH (CH3) CH2CH2CH3 CH2CH (CH2CH3) CH2CH3 CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3.... CH2OCH2CH2CH3 CH2OCH2CH(CH3)2 CH2OCH2 (C6H5) CH_2OCH_2 (3CF₃-C₆H₄) CH_2OCH_2 (2C1- C_6H_4) CH_2OCH_2 (3SCH₃-C₆H₄) CH_2OCH_2 (4C1- C_6H_4) CH_2OCH_2 (2, 4F-C₆H₃) CH2CH2OCH2CH2CH3 CH2O (C6H5) CH20 (3CF3-C6H4) $CH_2O(4CF_3-C_6H_4)$

CH2O (2C1-C6H4) CH2O (3SCH3-C6H4) CH2O (2CH3-C6H4) $CH_{2}O(4C1-C_{6}H_{4})$ $CH_2O(2, 4Cl-C_6H_3)$ CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH(CH3)2 CH2SCH2 (C6H5) $CH_2SCH_2(3CF_3-C_6H_4)$ CH2S (2C1-C6H4) CH₂S (4CH₃-C₆H₄) CH₂S (2, 4C1-C₆H₃) СH₂S (3SCH₃-C₆H₄) $CH_2S(2,6C1-C_6H_3)$ CH₂S (C₆H₅) $CH_2S(3CF_3-C_6H_4)$ CH2S (2C1-C6H4) CH2S (4CH3-C6H4) CH₂S (2, 6C1-C₆H₃) $CH_2S(2, 4C1-C_6H_3)$ CH2NHCH2CH3 CH2NHCH2CH2CH3 .. CH2NHCH2C(C6H5) CH2NHCH2CH (CH3) 2 CH_2NHCH_2 (3CF₃-C₆H₄) $CH_2NHCH_2(2C1-C_6H_4)$ $CH_2NH(C_6H_5)$ $CH_2NH(2C1-C_6H_4)$ $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH₂ (CH₂) ₂CH₃ OCH2 (CH2) 3CH3 осн₂ (сн₂) ₅сн₃ OCH2C(C6H5)

OCH2 (3CF3-C6H4) OCH₂ (2C1-C₆H₄) OCH2CH (CH3)2 O(C6H5) $O(3CF_3-C_6H_4)$ 0 (2C1-C6H4) O(4SCH3-C6H4) O(2,4C1-C6H3) SCH2CH2CH3 SCH2 (CH2) 2CH3 scн₂ (сн₂) ₃сн₃ SCH2 (CH2) 5CH3 SCH2 (C6H5) SCH2 (3SCH3-C6H4) SCH2 (20CH3-C6H4) SCH2 (2C1-C6H4) SCH₂ (2, 4-C₆H₃) SCH2 (4CF3-C6H4) S (CH₃) 3 SCH2CH (CH3) 2 S (C6H5) S (3CF3-C6H4) S (2C1-C6H4) S (40CH3-C6H4) S (2,4C1-C6H3) S (2, 6F-C₆H₃) 2 (3CH3-C6H4) NHCH2CH2CH3 NHCH2 (CH2) 2CH3 NHCH2 (CH2) 4CH3 NHCH2 (CH2) 5CH3 NHCH2CH (CH3) 2 NHCH₂ (C₆H₅) NHCH2 (3CF3-C6H4) NHCH2 (2C1-C6H4)

.

 $NHCH_2(4CH_3-C_6H_4)$ $NHCH_2(2, 4C1-C_6H_3)$ $NHCH_2(2,6C1-C_6H_3)$ NH (C6H5) NH $(3CF_3-C_6H_4)$ $NH(2C1-C_6H_4)$ NH (3CH3-C6H4) NH (2, 4C1-C6H3) $NH(2,6C1-C_6H_3)$ $N(CH_3)(3CF_3-C_6H_4)$ N (CH3) CH2CH2CH3 N (CH2) 4 N (CH₂) 5 N (CH2) 6 N(CH2CH2-OCH2CH2)2 CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH_2CH_2N (CH_3) CH_2CH_3 $CH=CH(CH_3)_2$ CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH₂CH₂-C1 CH2CH2CH-C1CH2-C1 C₆H₅ 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 ... 2CF3-C6H4 2,4C1-C6H3

2SCH3-C6H4 CH₂ (C₆H₅) $CH_2(3CF_3-C_6H_4)$ CH₂ (2C1-C₆H₄) CH2 (4C1-C6H4) CH₂ (2, 4C1-C₆H₃) CH2 (3SCH3-C6H4) CH2 (30CH3-C6H4) $CH_2 (3C1-C_6H_4)$ CH₂ (2, 6F-C₆H₃) CH₂ (2,6C1-C₆H₃) $CH_2(3, 4F-C_6H_3)$ CH_2 -Si(CH_3)3 $ON=C(CH_3)_2$ $ON=CH(C_6H_5)$ $ON=C(CH_3)C_6H_5$ $OCH_2(2,6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 OCH2-CH 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl O-2 (3CF₃-C₅H₃N) O-2C1-6CF3-C6H3 R^1 =OCH₃, R^2 =C=N (CH₂)₂CH₃ (CH₂) 3CH₃ (CH₂) 4CH₃

(CH₂) 5CH₃ (CH₂) 6CH₃ (CH₂) 7CH₃ (CH₂) 8CH₃ (CH₂) 9CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 $CH_2CH_2CH_2CH(CH_3)_2$ CH2CH2CH (CH3) CH2CH2CH3 $\mathrm{CH}_2\mathrm{CH}$ (CH_3) $\mathrm{CH}_2\mathrm{CH}_2\mathrm{CH}_3$ сн₂сн (сн₂сн₃) сн₂сн₃ сн₂сн₂сн₂осн₂сн₃ CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH₂-cyclobutyl CH2~cyclopentyl CH2-cyclohexyl cyclopropyl.... cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 СH₂ОСH₂СH (СH₃)₂ СH₂ОСH₂ (С₆H₅) CH_2OCH_2 (3CF₃-C₆H₄) CH2OCH2 (2C1-C6H4) $CH_{2}OCH_{2}$ (3SCH₃-C₆H₄) CH2OCH2 (4C1-C6H4) CH_2OCH_2 (2, 4F-C₆H₃)

2,6C1-C6H3

		5
	CH2CH2OCH2CH2CH3	осн ₂ (сн ₂) ₂ сн ₃
	СH ₂ O (С ₆ H ₅)	осн ₂ (сн ₂) ₃ сн ₃
	CH ₂ O(3CF ₃ -C ₆ H ₄)	осн ₂ (сн ₂) ₅ сн ₃
	CH ₂ O (4CF ₃ -C ₆ H ₄)	осн ₂ с (с ₆ н ₅)
	CH ₂ O(2C1-C ₆ H ₄)	осн ₂ (3СF ₃ -С ₆ н ₄)
	CH2O(3SCH3-C6H4)	OCH ₂ (2C1-C ₆ H ₄)
	CH2O (2CH3-C6H4)	осн ₂ сн (сн ₃) ₂
	CH2O(4C1-C6H4)	O(C ₆ H ₅)
	CH ₂ O(2,4C1-C ₆ H ₃)	O(3CF3-C6H4)
	CH2SCH2CH3	O(2C1-C6H4)
	CH2SCH2CH2CH3	O (4SCH3-C6H4)
	CH2SCH2CH (CH3) 2	O(2,4C1-C6H3)
	CH2SCH2 (C6H5)	SCH2CH2CH3
	CH2SCH2 (3CF3-C6H4)	SCH2 (CH2) 2CH3
	CH ₂ S (2C1-C ₆ H ₄)	SCH ₂ (CH ₂) ₃ CH ₃
	CH2S (4CH3-C6H4)	SCH ₂ (СН ₂) ₅ СН ₃
	CH ₂ S (2, 4C1-C ₆ H ₃)	scн ₂ (с ₆ н ₅)
	CH ₂ S (3SCH ₃ -C ₆ H ₄)	SCH2 (3SCH3-C6H4)
	CH ₂ S (2, 6C1-C ₆ H ₃)	SCH ₂ (20CH ₃ -C ₆ H ₄)
	CH ₂ S (C ₆ H ₅)	SCH2 (2C1-C6H4)
	CH ₂ S (3CF ₃ -C ₆ H ₄)	SCH ₂ (2, 4-C ₆ H ₃)
	CH ₂ S (2C1-C ₆ H ₄)	SCH ₂ (4CF ₃ -C ₆ H ₄)
1 00	CH2S (4CH3=C6H4)	s (CH ₃):3
	CH ₂ S (2,6C1-C ₆ H ₃)	SCH ₂ CH (СН ₃) ₂
	CH ₂ S(2,4Cl-C ₆ H ₃)	s (C ₆ H ₅)
	CH2NHCH2CH3	s (3CF ₃ -C ₆ H ₄)
	CH2NHCH2CH2CH3	s (2C1-C ₆ H ₄)
	CH ₂ NHCH ₂ C(C ₆ H ₅)	S (40CH3-C6H4)
	CH2NHCH2CH (CH3)2	S(2,4C1-C6H3)
	CH_2NHCH_2 (3CF ₃ -C ₆ H ₄)	s (2, 6F-C ₆ H ₃)
	CH ₂ NHCH ₂ (2C1-C ₆ H ₄)	2 (3CH3-C6H4)
	CH ₂ NH (C ₆ H ₅)	инсн ₂ сн ₂ сн ₃
	CH ₂ NH (2C1-C ₆ H ₄)	инсн ₂ (Сн ₂) ₂ Сн ₃
	CH ₂ N (CH ₃) (2C1-C ₆ H ₄)	инсн ₂ (Сн ₂) ₄ Сн ₃
	OCH2CH2CH3	инсн ₂ (сн ₂) ₅ сн ₃

```
NHCH2CH (CH3) 2
 NHCH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
 NHCH<sub>2</sub> (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
 NHCH<sub>2</sub> (2C1-C<sub>6</sub>H<sub>4</sub>)
 NHCH<sub>2</sub> (4CH<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
 NHCH<sub>2</sub> (2, 4C1-C<sub>6</sub>H<sub>3</sub>)
 NHCH_2(2,6C1-C_6H_3)
 NH (C6H5)
 NH (3CF3-C6H4)
NH (2C1-C6H4)
 NH (3CH3-C6H4)
 NH (2, 4C1-C6H3)
ин (2,6Cl-C<sub>6</sub>H<sub>3</sub>)
N(CH<sub>3</sub>) (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
n (ch<sub>3</sub>) ch<sub>2</sub>ch<sub>2</sub>ch<sub>3</sub>
N(CH<sub>2</sub>)<sub>4</sub>
N(CH<sub>2</sub>)<sub>5</sub>
N(CH<sub>2</sub>)6
n (ch<sub>2</sub>ch<sub>2</sub>-och<sub>2</sub>ch<sub>2</sub>) <sub>2</sub>
 сн<sub>2</sub>со<sub>2</sub>сн<sub>3</sub>
 CH2CH2CO2CH2CH3
CH2CH2CO2CH3
СH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>3</sub> — ...
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
CH2CH2N (CH3) CH2CH3
CH=CH (CH<sub>3</sub>)<sub>2</sub>
CH<sub>2</sub>CH<sub>2</sub>CH<del>=</del>CH<sub>2</sub>
CH2CH=CH-CH3
CH=CH-CH2CH2-C1
CH2CH2CH-C1CH2-C1
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
3CH3-C6H4
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30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6C1-C6H3 2SCH3-C6H4 $CH_2(C_6H_5)$ $CH_2 (3CF_3 - C_6H_4)$ CH2 (2C1-C6H4) $CH_2 (4C1-C_6H_4)$ $CH_2(2,4C1-C_6H_3)$ CH2 (3SCH3-C6H4) CH_2 (30 CH_3 - C_6H_4) $CH_2 (3C1-C_6H_4)$ $CH_2(2,6F-C_6H_3)$ CH₂ (2, 6Cl-C₆H₃) CH_2 (3, 4F- C_6H_3) CH2-Si(CH3)3 ON=C (CH3) 2 ON=CH (C6H5) $ON=C(CH_3)C_6H_5$ OCH_2 (2, 6-C1-C₆H₃) OCH2 (C=CH2) CH3 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl 0-2 (3CF3-C5H3N) 0-2C1-6CF3-C6H3

 $R^1 = OCF_3$, $R^2 = C = N$ \mathbb{R}^3 (CH₂)₂CH₃ (CH₂)₃CH₃ (CH₂)₄CH₃ (CH₂) 5CH₃ (CH₂) 6CH₃ (CH₂) 7CH₃ (CH₂) 8CH₃ (CH₂) 9CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH(CH3)CH2CH2CH3 CH_2CH (CH_3) $CH_2CH_2CH_3$ СH₂CH (CH₂CH₃) CH₂CH₃ CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH(CH3)2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH(CH3)2 $CH_2OCH_2(C_6H_5)$

CH2OCH2 (3CF3-C6H4) $CH_2OCH_2 (2C1-C_6H_4)$ CH_2OCH_2 (3SCH₃-C₆H₄) CH_2OCH_2 ($4C1-C_6H_4$) CH_2OCH_2 (2, 4F-C₆H₃) CH2CH2OCH2CH2CH3 CH20 (C6H5) $CH_2O(3CF_3-C_6H_4)$ CH2O(4CF3-C6H4) CH20 (2C1-C6H4) СH₂O (3SCH₃-C₆H₄) CH2O (2CH3-C6H4) CH2O (4C1-C6H4) CH₂O(2, 4C1-C₆H₃) CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH (CH3) 2 CH2SCH2 (C6H5) CH_2SCH_2 (3CF₃- C_6H_4) CH2S (2C1-C6H4) CH2S (4CH3-C6H4) CH₂S (2, 4C1-C₆H₃) СH₂S (3SCH₃-С₆H₄) CH2S (2, 6C1-C6H3) CH₂S (C₆H₅) CH2S (3CF3-C6H4) CH₂S (2C1-C₆H₄) CH2S (4CH3-C6H4) CH₂S (2, 6C1-C₆H₃) $CH_2S(2, 4C1-C_6H_3)$ CH2NHCH2CH3 CH2NHCH2CH2CH3 $CH_2NHCH_2C(C_6H_5)$ CH2NHCH2CH (CH3) 2 CH2NHCH2 (3CF3-C6H4)

 $CH_2NHCH_2(2C1-C_6H_4)$ $CH_2NH(C_6H_5)$. $CH_2NH(2C1-C_6H_4)$ $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH2 (CH2) 2CH3 OCH2 (CH2) 3CH3 OCH2 (CH2) 5CH3 $OCH_2C(C_6H_5)$ $OCH_2 (3CF_3 - C_6H_4)$ OCH2 (2C1-C6H4) OCH2CH (CH3) 2 O(C6H5) $O(3CF_3-C_6H_4)$ O(2C1-C6H4) O(4SCH3-C6H4) O(2,4C1-C6H3) SCH2CH2CH3 SCH2 (CH2) 2CH3 SCH2 (CH2) 3CH3 SCH2 (CH2) 5CH3 SCH2 (C6H5) SCH2 (3SCH3+C6H4). $SCH_2(2OCH_3-C_6H_4)$ SCH_2 (2C1-C₆H₄) SCH2 (2, 4-C6H3) SCH_2 (4CF₃-C₆H₄) S (CH3) 3 SCH2CH (CH3) 2 S (C6H5) S (3CF3-C6H4) S (2C1-C6H4) S (40CH3-C6H4) S(2,4C1-C6H3)

2 (3CH3-C6H4) NHCH2CH2CH3 NHCH2 (CH2) 2CH3 NHCH₂ (CH₂) ₄CH₃ NHCH2 (CH2) 5CH3 NHCH2CH (CH3) 2 NHCH₂ (C₆H₅) NHCH₂ (3CF₃-C₆H₄)NHCH₂ (2C1-C₆H₄) NHCH₂ (4CH₃-C₆H₄) $NHCH_2(2, 4C1-C_6H_3)$ $NHCH_2(2,6C1-C_6H_3)$ ин (С₆н₅) $NH(3CF_3-C_6H_4)$ NH (2C1-C6H4) NH (3CH3-C6H4) NH (2, 4C1-C6H3) NH (2,6C1-C6H3) $N(CH_3)(3CF_3-C_6H_4)$ N (CH₃) CH₂CH₂CH₃ N (CH₂) 4 N (CH₂) 5 N (CH₂) 6 N(CH2CH2-OCH2CH2)2 CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH2CH2N (CH3) CH2CH3 CH=CH (CH₃)₂ CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH2CH2-C1

CH2CH2CH-ClCH2-Cl C₆H₅ 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6Cl-C6H3 2SCH3-C6H4 CH₂ (C₆H₅) $CH_2(3CF_3-C_6H_4)$ CH2 (2C1-C6H4) CH2 (4C1-C6H4) CH₂ (2, 4C1-C₆H₃) CH₂ (3SCH₃-C₆H₄) CH₂ (30CH₃-C₆H₄) $CH_2(3C1-C_6H_4)$ $CH_2(2,6F-C_6H_3)$ CH₂ (2,6C1-C6H₃) CH₂ (3, 4F-C₆H₃) CH2-S1 (CH3) 3 $ON=C(CH_3)_2$ on=ch (c₆H₅) ON=C (CH3) C6H5 $OCH_2(2, 6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 och2-ch 4F-C6H4 4C1-C6H4 $4Br-C_6H_4$ 2-pyridyl 2-furyl 2-thiazolyl

S(2,6F-C6H3)

الهدائة أكاسيسورة وا

2-imidazolyl 0-2 (3CF3-C5H3N) 0-2C1-6CF3-C6H3 R^1 =OCF₂H, R^2 =C=N RЗ (CH2) 2CH3 (CH2) 3CH3 (CH₂)₄CH₃ (CH₂) 5CH₃ (CH₂) 6CH₃ (CH₂)₇CH₃ (CH₂) 8CH₃ (CH₂) 9CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2CH2CH(CH3)2 CH_2CH_2CH (CH_3) $CH_2CH_2CH_3$ CH2CH (CH3) CH2CH2CH3 CH2CH (CH2CH3) CH2CH3 CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2=S=CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl

CH2OCH2CH3 CH2OCH2CH2CH3 $CH_2OCH_2CH(CH_3)_2$ $CH_2OCH_2(C_6H_5)$ CH_2OCH_2 (3CF₃-C₆H₄) CH2OCH2 (2C1-C6H4) CH_2OCH_2 (3SCH₃-C₆H₄) $CH_2OCH_2 (4C1-C_6H_4)$ $CH_2OCH_2(2, 4F-C_6H_3)$ CH2CH2OCH2CH2CH3 CH2O (C6H5) CH₂O (3CF₃-C₆H₄) CH2O (4CF3-C6H4) CH2O (2C1-C6H4) CH2O (3SCH3-C6H4) CH₂O (2CH₃-C₆H₄) CH2O (4C1-C6H4) $CH_2O(2, 4C1-C_6H_3)$ CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH(CH3)2 CH2SCH2 (C6H5) CH_2SCH_2 (3 $CF_3-C_6H_4$) CH2S (2C1-C6H4) CH₂S (4CH₃-C₆H₄) CH2S (2, 4C1-C6H3) CH₂S (3SCH₃-C₆H₄) $CH_2S(2,6C1-C_6H_3)$ CH₂S (C₆H₅) $CH_2S(3CF_3-C_6H_4)$ CH2S (2C1-C6H4) $CH_2S(4CH_3-C_6H_4)$ $CH_2S(2,6C1-C_6H_3)$ $CH_2S(2,4C1-C_6H_3)$ CH2NHCH2CH3

CH2NHCH2CH2CH3 $CH_2NHCH_2C(C_6H_5)$ CH2NHCH2CH (CH3) 2 CH2NHCH2 (3CF3-C6H4) CH_2NHCH_2 (2C1- C_6H_4) CH2NH (C6H5) CH2NH (2C1-C6H4) $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 осн₂ (сн₂) ₂сн₃ OCH2 (CH2) 3CH3 осн₂ (сн₂) ₅сн₃ OCH2C (C6H5) OCH_2 (3CF₃-C₆H₄) OCH2 (2C1-C6H4) OCH2CH (CH3) 2 O(C6H5) O(3CF3-C6H4) O(2C1-C6H4) O(4SCH3-C6H4) O(2,4C1-C6H3) SCH2CH2CH3 SCH2 (CH2) 2CH3 SCH2 (CH2) 3CH3 SCH₂ (CH₂) ₅CH₃ SCH₂ (C₆H₅) SCH2 (3SCH3-C6H4) SCH2 (20CH3-C6H4) SCH2 (2C1-C6H4) SCH2 (2, 4-C6H3) SCH2 (4CF3-C6H4) S (CH₃) 3 SCH2CH (CH3) 2 S (C6H5) S (3CF3-C6H4)

s (2C1-C ₆ H ₄)
s (40CH3-C6H4)
s(2,4C1-C6H3)
S(2,6F-C ₆ H ₃)
2 (3CH ₃ -C ₆ H ₄)
NHCH2CH2CH3
$\mathrm{NHCH_2}\left(\mathrm{CH_2}\right)_2\mathrm{CH_3}$
NHCH ₂ (CH ₂) ₄ CH ₃
NHCH ₂ (СН ₂) 5СН ₃
NHCH ₂ CH (CH ₃) ₂
NHCH ₂ (C ₆ H ₅)
NHCH ₂ (3CF ₃ -C ₆ H ₄)
NHCH ₂ (2C1-C ₆ H ₄)
NHCH ₂ (4CH ₃ -C ₆ H ₄)
$NHCH_2(2, 4C1-C_6H_3)$
$NHCH_2(2,6C1-C_6H_3)$
NH (C ₆ H ₅)
NH (3CF ₃ -C ₆ H ₄)
NH $(2C1-C_6H_4)$
$NH(3CH_3-C_6H_4)$
NH (2, 4C1-C ₆ H ₃)
$NH(2,6C1-C_6H_3)$
N(CH ₃) (3CF ₃ =C ₆ H ₄)
n (CH ₃) CH ₂ CH ₂ CH ₃
N(CH ₂) ₄
N (CH ₂) 5
N(CH ₂) ₆
N(CH ₂ CH ₂ -OCH ₂ CH ₂) ₂
CH ₂ CO ₂ CH ₃
CH2CH2CO2CH2CH3
CH2CH2CO2CH3
CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH ₂ CH ₂ -NHCH ₂ CH ₃

CH2CH2N (CH3) CH2CH3

СH=СН (СН ₃) 2
сн ₂ сн ₂ сн=сн ₂
сн ₂ сн=сн-сн ₃
CH=CH-CH ₂ CH ₂ -Cl
сн ₂ сн ₂ сн-с1сн ₂ -с1
С ₆ Н ₅
3CF3-C6H4
2C1-C6H4
3CH ₃ -С ₆ H ₄
30СH ₃ -С ₆ H ₄
2CF3-C6H4
2,4C1-C ₆ H ₃
2,6C1-C ₆ H ₃
2SCH3-C6H4
сн ₂ (С ₆ н ₅)
CH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ (2Cl-C ₆ H ₄)
CH ₂ (4Cl-C ₆ H ₄)
CH ₂ (2, 4C1-C ₆ H ₃)
CH ₂ (3SCH ₃ -C ₆ H ₄)
СH ₂ (30СH ₃ -С ₆ H ₄)
CH ₂ (3Cl-C ₆ H ₄)
CH ₂ (2, 6F-C ₆ H ₃)
СH ₂ (2, 6С1-С ₆ H ₃)
CH ₂ (3, 4F-C ₆ H ₃)
СH ₂ -Si (СH ₃) 3
ON=C (CH ₃) ₂
on=ch (c ₆ h ₅)
on=c (ch ₃) c ₆ h ₅
OCH ₂ (2, 6-Cl-C ₆ H ₃)
OCH ₂ (C≂CH ₂) CH ₃
OCH ₂ -CH CH ₂
4F-C ₆ H ₄
4C1-C6H4

```
4Br-C<sub>6</sub>H<sub>4</sub>
 2-pyridyl _
 2-furyl
 2-thiazolyl
 2-imidazolyl
O-2 (3CF3~C5H3N)
0-2C1-6CF<sub>3</sub>-C<sub>6</sub>H<sub>3</sub>
         R^1=NO_2, R^2=C=N
R3
 (CH<sub>2</sub>)<sub>2</sub>CH<sub>3</sub>
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 (CH<sub>2</sub>) 4CH<sub>3</sub>
 (CH<sub>2</sub>) 5CH<sub>3</sub>
 (CH<sub>2</sub>) 6CH<sub>3</sub>
 (CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>
(CH<sub>2</sub>) 8CH<sub>3</sub>
(CH<sub>2</sub>)<sub>9</sub>CH<sub>3</sub>
СH<sub>2</sub>СH (СH<sub>3</sub>)<sub>2</sub>
СH<sub>2</sub>CH<sub>2</sub>CH (СH<sub>3</sub>)<sub>2</sub>
CH2CH2CH2CH(CH3)2
CH2CH2CH(CH3)CH2CH2CH3
Сн<sub>2</sub>сн (сн<sub>3</sub>) сн<sub>2</sub>сн<sub>2</sub>сн<sub>3</sub>-
CH2CH (CH2CH3) CH2CH3
CH2CH2CH2OCH2CH3
сн<sub>2</sub>сн<sub>2</sub>сн<sub>2</sub>сн<sub>2</sub>осн<sub>3</sub>
CH2CH2CH2-S-CH2CH3
CH2CH2CH2CH2SCH3
CH2CH2CH2NHCH2CH3
CH2CF2CH(CH3)2
CH2CH2CH2CF2CH3
CH2-cyclopropyl
CH2-cyclobutyl
CH<sub>2</sub>-cyclopentyl
CH<sub>2</sub>-cyclohexyl
```

cyclopropyl
cyclobutyl
cyclopentyl
cyclohexyl
си ₂ оси ₂ си ₃
CH2OCH2CH2CH3
СH ₂ ОСH ₂ СH (СH ₃) ₂
сн ₂ осн ₂ (С ₆ н ₅)
CH2OCH2 (3CF3-C6H4)
сн ₂ осн ₂ (2С1-С ₆ н ₄)
CH2OCH2 (3SCH3-C6H4)
CH2OCH2 (4C1-C6H4)
CH2OCH2 (2, 4F-C6H3)
сн ₂ сн ₂ осн ₂ сн ₂ сн ₃
CH ₂ O (С ₆ H ₅)
CH20(3CF3-C6H4)
CH ₂ O(4CF ₃ -C ₆ H ₄)
CH ₂ O (2C1-C ₆ H ₄)
CH20 (3SCH3-C6H4)
CH ₂ O (2CH ₃ -C ₆ H ₄)
$CH_2O(4C1-C_6H_4)$
$CH_2O(2,4C1-C_6H_3)$
CH2SCH2CH3
CH2SCH2CH2CH3
CH2SCH2CH(CH3)2
CH ₂ SCH ₂ (C ₆ H ₅)
CH2SCH2 (3CF3-C6H4)
$CH_2S(2C1-C_6H_4)$
CH ₂ S (4CH ₃ -C ₆ H ₄)
$CH_2S(2, 4C1-C_6H_3)$
CH ₂ S (3SCH ₃ -C ₆ H ₄)
$CH_2S(2,6C1-C_6H_3)$
CH ₂ S (C ₆ H ₅)
$CH_2S(3CF_3-C_6H_4)$

CH2S (4CH3-C6H4)
сн ₂ s(2,6c1-c ₆ н ₃)
CH ₂ S(2,4C1-C ₆ H ₃)
CH2NHCH2CH3
сн ₂ инсн ₂ сн ₂ сн ₃
сн ₂ инсн ₂ с (с ₆ н ₅)
CH2NHCH2CH(CH3)2
СH ₂ NHCH ₂ (3СF ₃ -С ₆ H ₄)
CH2NHCH2 (2C1-C6H4)
СH ₂ NH (С ₆ H ₅)
CH ₂ NH (2C1-C ₆ H ₄)
CH ₂ N (CH ₃) (2C1-C ₆ H ₄)
осн ₂ сн ₂ сн ₃
осн ₂ (сн ₂) ₂ сн ₃
осн ₂ (сн ₂) ₃ сн ₃
осн ₂ (сн ₂) ₅ сн ₃
OCH ₂ C(C ₆ H ₅)
OCH ₂ (3CF ₃ -C ₆ H ₄)
OCH ₂ (2C1-C ₆ H ₄)
OCH ₂ CH (CH ₃) ₂
о (С ₆ н ₅)
o(3CF3-C6H4)
0 (2C1-C ₆ H ₄ ·) · · · · · · · · · · · · · ·
0 (4SCH3-C6H4)
O(2,4C1-C ₆ H ₃)
sch ₂ ch ₂ ch ₃
SCH ₂ (CH ₂) ₂ CH ₃
SCH ₂ (CH ₂) ₃ CH ₃
SCH ₂ (CH ₂) ₅ CH ₃
SCH ₂ (C ₆ H ₅)
SCH ₂ (3SCH ₃ -C ₆ H ₄)
SCH ₂ (20CH ₃ -C ₆ H ₄)
SCH ₂ (2C1-C ₆ H ₄)
SCH ₂ (2,4-C ₆ H ₃)
SCH ₂ (4CF ₃ -C ₆ H ₄)

	S (CH3) 3
	SCH2CH(CH3)2
	s (C ₆ H ₅)
	s(3CF3-C6H4)
	S (2C1-C6H4)
	s (40CH3-C6H4)
	S (2,4C1-C6H3)
	S(2,6F-C ₆ H ₃)
	2 (3CH3-C6H4)
	NHCH2CH2CH3
	NHCH ₂ (CH ₂) ₂ CH ₃
	NHCH ₂ (CH ₂) ₄ CH ₃
	инсн ₂ (сн ₂) ₅ сн ₃
	инсн ₂ сн (сн ₃) ₂
	инсн ₂ (с ₆ н ₅)
i	NHCH ₂ (3CF ₃ -C ₆ H ₄)
	инсн ₂ (2С1-С ₆ н ₄)
	NHCH ₂ (4CH ₃ -C ₆ H ₄)
	NHCH ₂ (2, 4C1-C ₆ H ₃)
	NHCH ₂ (2,6Cl-C ₆ H ₃)
	ин (С ₆ н ₅)
	NH (3CF ₃ -C ₆ H ₄)
١	NH (2C1-C ₆ H ₄)
I	ин (3CH ₃ -C ₆ H ₄)
	NH (2, 4C1-C ₆ H ₃)
	NH (2, 6С1—С ₆ Н ₃)
	N(CH ₃) (3CF ₃ -C ₆ H ₄)
ı	n (CH ₃) CH ₂ CH ₂ CH ₃
ı	N(CH ₂) ₄
	N(CH ₂) ₅
	N(CH ₂)6
١	N (CH ₂ CH ₂ -OCH ₂ CH ₂) ₂
1	CH ₂ CO ₂ CH ₃
ı	CH ₂ CH ₂ CO ₂ CH ₂ CH ₃
1	СH ₂ CH ₂ CO ₂ CH ₃

CH2S (2C1-C6H4)

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CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
CH2CH2N (CH3) CH2CH
CH=CH (CH ₃) ₂
CH2CH2CH=CH2
CH2CH=CH-CH3
CH=CH-CH ₂ CH ₂ -Cl
CH2CH2CH-C1CH2-C1
С ₆ н ₅
3CF3-C6H4
2C1-C6H4
3CH3-C6H4
30CH3-C6H4
2CF3-C6H4
2,4Cl-C6H3
2,6C1-C6H3
2SCH3-C6H4
CH ₂ (С ₆ H ₅)
$CH_2 (3CF_3 - C_6H_4)$
$CH_2 (2C1-C_6H_4)$
CH_2 (4C1-C ₆ H ₄)
CH ₂ (2, 4C1-C ₆ H ₃)
CH ₂ (3SCH ₃ -C ₆ H ₄)
CH ₂ (30CH ₃ -C ₆ H ₄)
CH ₂ (3C1-C ₆ H ₄)
CH ₂ (2, 6F-C ₆ H ₃)
CH ₂ (2,6C1-C ₆ H ₃)
CH ₂ (3, 4F-C ₆ H ₃)
CH_2 -Si (CH_3) 3 ON=C (CH_3) 2
$ON=CH(C_6H_5)$
$ON=C(CH_3)C_6H_5$
OCH_2 (2, 6-C1-C ₆ H ₃)
OCH ₂ (C=CH ₂) CH ₃
00.12 (0-0.12/ 0.13

	OCH2-CH CH2
	4F-C ₆ H ₄
	4C1-C6H4
	4Br-C ₆ H ₄
	2-pyridyl
	2-furyl
	2-thiazolyl
	2-imidazolyl
	0-2 (3CF ₃ -C ₅ H ₃ N)
	0-2C1-6CF3-C6H3
	R ¹ =Cl, R ² =CO ₂ H
	R ³
	(CH ₂) ₂ CH ₃
	(CH ₂) ₃ CH ₃
	(CH ₂) ₄ CH ₃
	(CH ₂) ₅ CH ₃
	(CH ₂) 6CH ₃
	(CH ₂) ₇ CH ₃
Ì	(CH ₂) ₈ CH ₃
I	(CH ₂) ₉ CH ₃
1	СH ₂ CH (СH ₃)-2
ı	Сн ₂ Сн ₂ Сн (Сн ₃) ₂
	CH ₂ CH ₂ CH ₂ CH (CH ₃) ₂
	Сн ₂ сн ₂ сн (сн ₃) сн ₂ сн ₂ сн ₃
	СH ₂ CH (СH ₃) СH ₂ CH ₂ CH ₃
	Сн ₂ сн (Сн ₂ сн ₃) сн ₂ сн ₃
1	CH2CH2CH2OCH2CH3
ŀ	CH2CH2CH2CH2OCH3
ı	CH ₂ CH ₂ CH ₂ -S-CH ₂ CH ₃
ł	CH2CH2CH2CH2SCH3
l	CH2CH2CH2NHCH2CH3
ı	CH ₂ CF ₂ CH (CH ₃) ₂
	CH ₂ CH ₂ CH ₂ CF ₂ CH ₃

	•
	CH2-cyclopropyl
	CH2-cyclobutyl
	CH2-cyclopentyl
	CH ₂ -cyclohexyl
	cyclopropyl
	cyclobutyl
	cyclopentyl
	cyclohexyl
	сн ₂ осн ₂ сн ₃
	сн ₂ осн ₂ сн ₂ сн ₃
	СH ₂ OCH ₂ CH (СН ₃) ₂
	СH ₂ ОСH ₂ (С ₆ H ₅)
	CH ₂ OCH ₂ (3CF ₃ -C ₆ H ₄)
	CH2OCH2 (2C1-C6H4)
	СH ₂ OCH ₂ (3SCH ₃ -C ₆ H ₄)
	CH ₂ OCH ₂ (4Cl-C ₆ H ₄)
	CH ₂ OCH ₂ (2, 4F-С ₆ H ₃)
	CH2CH2OCH2CH2CH3
	СH ₂ O (С ₆ H ₅)
ļ	CH ₂ O(3CF ₃ -C ₆ H ₄)
	CH ₂ O (4CF ₃ -C ₆ H ₄)
	CH ₂ O(2C1-C ₆ H ₄)
	СH ₂ O (3SCH ₃ =C ₆ H ₄)
	CH ₂ O (2CH ₃ -C ₆ H ₄)
ı	CH ₂ O(4C1-C ₆ H ₄)
	CH ₂ O(2,4C1-C ₆ H ₃)
1	CH ₂ SCH ₂ CH ₃
1	CH ₂ SCH ₂ CH ₂ CH ₃
ŀ	CH ₂ SCH ₂ CH (CH ₃) 2
1	CH ₂ SCH ₂ (C ₆ H ₅)
ı	CH ₂ SCH ₂ (3CF ₃ -C ₆ H ₄)
- 1	CH ₂ S (2C1-C ₆ H ₄)
	CH ₂ S (4CH ₃ -C ₆ H ₄)
- 1	CH ₂ S (2, 4C1-C ₆ H ₃)
1	СH ₂ S (3SCH ₃ -С ₆ H ₄)

CH ₂ S(2,6C1-C ₆ H ₃)	SCH ₂ (2
CH ₂ S (C ₆ H ₅)	SCH ₂ (2
CH ₂ S (3CF ₃ -C ₆ H ₄)	SCH ₂ (2
CH2S(2C1-C6H4)	SCH ₂ (4
CH ₂ S (4CH ₃ -C ₆ H ₄)	s (CH3)
CH ₂ S(2,6C1-C6H ₃)	зсн ₂ сн
CH ₂ S(2,4C1-C6H ₃)	s (C6H5
CH ₂ NHCH ₂ CH ₃	s (3CF ₃
CH2NHCH2CH2CH3	s (2C1-
сн ₂ инсн ₂ с (с ₆ н ₅)	S (40CH
СН ₂ NHCH ₂ CH (СН ₃) ₂	S (2,4C
CH ₂ NHCH ₂ (3CF ₃ -C ₆ H ₄)	S (2, 6F
CH ₂ NHCH ₂ (2C1-C ₆ H ₄)	2 (3CH ₃
СH ₂ NH (С ₆ H ₅)	инсн ₂ с
CH ₂ NH (2C1-C ₆ H ₄)	NHCH ₂ (
CH ₂ N (CH ₃) (2C1-C ₆ H ₄)	NHCH ₂ (
осн ₂ сн ₂ сн ₃	NHCH ₂ (
осн ₂ (сн ₂) ₂ сн ₃	инсн ₂ с
. осн ₂ (сн ₂) ₃ сн ₃	NHCH ₂ (
OCH ₂ (CH ₂) 5CH ₃	инсн ₂ (
осн ₂ с (с ₆ н ₅)	NHCH ₂ (
OCH ₂ (3CF ₃ -C ₆ H ₄)	инсн ₂ (
OCH ₂ (2C1-C ₆ H ₄)	NHCH ₂ (
OCH ₂ CH (CH ₃) ₂	инсн ₂ (
о (С ₆ н ₅)	ин (С ₆ н
O(3CF3-C6H4)	NH (3CF
0 (2C1-C ₆ H ₄)	NH (2C1
7 7 7	NH (3CH
O(2,4C1-C6H3)	NH (2, 4
	NH (2, 6
SCH ₂ (CH ₂) ₂ CH ₃	и (СН ³)
	и (СН _З)
	и (СH ₂)
	n (CH ₂)
SCH ₂ (3SCH ₃ -C ₆ H ₄)	N(CH ₂)

CH ₂ (20CH ₃ -C ₆ H ₄)	N (CH2CH2-OCH2CH2) 2
CH ₂ (2C1-C ₆ H ₄)	сн ₂ со ₂ сн ₃
CH ₂ (2, 4-C ₆ H ₃)	CH2CH2CO2CH2CH3
CH ₂ (4CF ₃ -C ₆ H ₄)	сн ₂ сн ₂ со ₂ сн ₃
(CH ₃) 3	сн ₂ сн ₂ осн ₂ сн ₃
CH ₂ CH (CH ₃) ₂	CH2CH2SCH2CH3
(C ₆ H ₅)	сн ₂ сн ₂ -инсн ₂ сн ₃
(3CF ₃ -C ₆ H ₄)	сн ₂ сн ₂ и (сн ₃) сн ₂ сн ₃
(2C1-C ₆ H ₄)	СH=СН (СН ₃) 2
(40CH ₃ -C ₆ H ₄)	сн ₂ сн ₂ сн=сн ₂
(2,4C1-C ₆ H ₃)	сн ₂ сн=сн-сн ₃
(2,6F-C ₆ H ₃)	сн=сн-сн ₂ сн ₂ -с1
(3CH ₃ -C ₆ H ₄)	сн2сн2сн-стсн2-ст
HCH ₂ CH ₂ CH ₃	С ₆ н ₅
1CH ₂ (CH ₂) ₂ CH ₃	3CF3-C6H4
HCH ₂ (CH ₂) ₄ CH ₃	2C1-C6H4
ICH ₂ (CH ₂) ₅ CH ₃	эсн ₃ -с ₆ н ₄
1CH ₂ CH (CH ₃) ₂	30CH ₃ -С ₆ H ₄
ICH ₂ (С ₆ H ₅)	2CF3-C6H4
1CH ₂ (3CF ₃ -C ₆ H ₄)	2,4C1-C ₆ H ₃
ich ₂ (2C1-C ₆ H ₄)	2,6C1-C6H3
ICH ₂ (4CH ₃ -C ₆ H ₄)	2SCH3-C6H4
ICH ₂ (2, 4C1-C ₆ H ₃)	CH ₂ (C ₆ H ₅)
ICH ₂ (2,6C1-C ₆ H ₃)	CH ₂ (3CF ₃ -C ₆ H ₄)
I(C ₆ H ₅)	CH ₂ (2C1-C ₆ H ₄)
1(3CF ₃ -C ₆ H ₄)	CH ₂ (4Cl-C ₆ H ₄)
H(2C1-C ₆ H ₄)	CH ₂ (2, 4C1-C ₆ H ₃)
(3CH ₃ -C ₆ H ₄)	CH ₂ (3SCH ₃ -C ₆ H ₄)
1(2,4C1-C6H3)	CH ₂ (30CH ₃ -C ₆ H ₄)
1(2,6C1-C6H ₃)	CH ₂ (3C1-C ₆ H ₄)
(CH ₃) (3CF ₃ -C ₆ H ₄)	CH ₂ (2, 6F-C ₆ H ₃)
(CH ₃) CH ₂ CH ₂ CH ₃	СH ₂ (2, 6С1-С ₆ H ₃)
(CH ₂) ₄	CH ₂ (3, 4F-C ₆ H ₃)
(CH ₂) ₅	CH ₂ -S1 (CH ₃) 3
(CH ₂) ₆	ON=C (CH ₃) ₂

ON=CH (C₆H₅)
ON=C (CH₃) C₆H₅
OCH₂ (2, 6-C1-C₆H₃)
OCH₂ (C=CH₂) CH₃
OCH₂-CH
CH₂

4F-C₆H₄

4Cl-C₆H₄

4Br-C₆H₄

2-pyridyl

2-furyl

2-thiazolyl

2-imidazolyl

0-2(3CF₃-C₅H₃N)

0-2Cl-6CF₃-C₆H₃

R1=Br, R2=CO2H

R³
(CH₂)₂CH₃
(CH₂)₃CH₃
(CH₂)₄CH₃
(CH₂)₅CH₃
(CH₂)₆CH₃
(CH₂)₇CH₃
(CH₂)₈CH₃
(CH₂)₉CH₃

(CH₂)₈CH₃
(CH₂)₉CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂CH₂CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃) CH₂CH₂CH₃
CH₂CH (CH₃) CH₂CH₂CH₃
CH₂CH (CH₃) CH₂CH₂CH₃
CH₂CH (CH₂CH₃) CH₂CH₃
CH₂CH₂CH₂CH₂CH₂CH₃
CH₂CH₂CH₂CH₂CH₃
CH₂CH₂CH₂CH₂CH₃

CH2CH2CH2-S-CH2CH3

CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH₂-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH(CH3)2 CH2OCH2 (C6H5) CH_2OCH_2 (3CF₃-C₆H₄) CH_2OCH_2 (2C1- C_6H_4) CH2OCH2 (3SCH3-C6H4) CH_2OCH_2 (4C1-C₆H₄) $CH_2OCH_2(2, 4F-C_6H_3)$ CH2CH2OCH2CH2CH3 CH₂O (C₆H₅) CH2O (3CF3-C6H4) CH2O (4CF3-C6H4) CH20 (2C1-C6H4) CH2O (3SCH3-C6H4) $CH_2O(2CH_3-C_6H_4)$ $CH_2O(4C1-C_6H_4)$ $CH_2O(2, 4C1-C_6H_3)$ CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH(CH3)2

CH2SCH2 (C6H5)

 CH_2SCH_2 (3 CF_3 - C_6H_4)

CH2S (2C1-C6H4) CH2S (4CH3-C6H4) $CH_2S(2, 4C1-C_6H_3)$ $CH_2S(3SCH_3-C_6H_4)$ $CH_2S(2,6C1-C_6H_3)$ CH₂S (C₆H₅) $CH_2S(3CF_3-C_6H_4)$ CH2S (2C1-C6H4) CH₂S (4CH₃-C₆H₄) CH₂S (2, 6C1-C₆H₃) CH₂S (2, 4C1-C₆H₃) CH2NHCH2CH3 CH2NHCH2CH2CH3 CH2NHCH2C(C6H5) CH2NHCH2CH (CH3) 2 $CH_2NHCH_2 (3CF_3-C_6H_4)$ CH_2NHCH_2 (2C1-C₆H₄) CH₂NH (C₆H₅) CH2NH (2C1-C6H4) $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH₂ (CH₂) ₂CH₃ осн₂ (сн₂).3сн₃. OCH2 (CH2) 5CH3 OCH₂C (C₆H₅) OCH₂ (3CF₃-C₆H₄) OCH₂ (2C1-C₆H₄) OCH2CH (CH3) 2 O(C6H5) O(3CF3-C6H4) 0(2C1-C6H4) O (4SCH3-C6H4) O(2,4C1-C6H3) SCH2CH2CH3 SCH2 (CH2) 2CH3

• •
SCH ₂ (CH ₂) 3CH ₃
SCH ₂ (CH ₂) ₅ CH ₃
SCH ₂ (C ₆ H ₅)
SCH2 (3SCH3-C6H4)
SCH ₂ (20CH ₃ -C ₆ H ₄)
SCH ₂ (2C1-C ₆ H ₄)
SCH ₂ (2, 4-C ₆ H ₃)
SCH ₂ (4CF ₃ -C ₆ H ₄)
S (CH ₃) 3
SCH2CH (CH3) 2
s (C ₆ H ₅)
S (3CF3-C6H4)
s (2C1-C6H4)
S (40CH3-C6H4)
S (2, 4C1-C6H3)
S(2,6F-C ₆ H ₃)
2 (3CH ₃ -C ₆ H ₄)
NHCH2CH2CH3
NHCH ₂ (CH ₂) ₂ CH ₃
NHCH ₂ (CH ₂) ₄ CH ₃
NHCH ₂ (CH ₂) 5CH ₃
NHCH2CH (CH3) 2
NHCH ₂ (C ₆ H ₅)
NHCH ₂ (3CF ₃ -C ₆ H ₄)
NHCH ₂ (2C1-C ₆ H ₄)
NHCH ₂ (4CH ₃ -C ₆ H ₄)
$NHCH_2$ (2, $4C1-C_6H_3$)
инсн ₂ (2, 6С1-С ₆ н ₃)
NH (C ₆ H ₅)
NH (3CF3-C6H4)
NH (2C1-C ₆ H ₄)
NH (3CH ₃ -C ₆ H ₄)
NH (2, 4C1-C ₆ H ₃)
NH (2,6C1-C ₆ H ₃)
$N(CH_3)(3CF_3-C_6H_4)$

```
и (сн<sub>3</sub>) сн<sub>2</sub>сн<sub>2</sub>сн<sub>3</sub>
N (CH<sub>2</sub>) 4
N (CH<sub>2</sub>) 5
N (CH<sub>2</sub>) 6
N(CH_2CH_2-OCH_2CH_2)_2
CH2CO2CH3
СH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>
CH2CH2CO2CH3
CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
CH2CH2N (CH3) CH2CH3
CH=CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH=CH2
CH2CH=CH-CH3
CH=CH-CH<sub>2</sub>CH<sub>2</sub>-Cl
CH2CH2CH-C1CH2-C1
C6H5
3CF3-C6H4
2C1-C6H4
3CH3-C6H4
30СH<sub>3</sub>-С<sub>6</sub>H<sub>4</sub>
2CF3-C6H4
2,4C1-C6H3
2,6C1-C6H3
25CH3-C6H4
CH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
CH_2 (3CF_3 - C_6H_4)
CH2 (2C1-C6H4)
CH<sub>2</sub> (4C1-C<sub>6</sub>H<sub>4</sub>)
CH_2(2,4C1-C_6H_3)
CH2 (3SCH3-C6H4)
CH2 (30CH3-C6H4)
CH2 (3C1-C6H4)
CH<sub>2</sub> (2, 6F-C<sub>6</sub>H<sub>3</sub>)
```

```
CH<sub>2</sub> (2, 6C1-C<sub>6</sub>H<sub>3</sub>)
 CH_2(3, 4F-C_6H_3)
 CH2-Si(CH3)3
 ON=C (CH<sub>3</sub>)<sub>2</sub>
 ON=CH(C_6H_5)
 ON=C (CH3) C6H5
 OCH<sub>2</sub> (2, 6-C1-C6H<sub>3</sub>)
 OCH2 (C=CH2) CH3
4F-C6H4
4C1-C6H4
4Br-C6H4
2-pyridyl
2-furyl
2-thiazolyl
2-imidazolyl
0-2 (3CF<sub>3</sub>-C<sub>5</sub>H<sub>3</sub>N)
0-2C1-6CF3-C6H3
           R^1=I, R^2=CO_2H
R3
 (CH2) 2CH3
(CH<sub>2</sub>) 3CH<sub>3</sub>
 (CH<sub>2</sub>) 4CH<sub>3</sub>
 (CH<sub>2</sub>) 5CH<sub>3</sub>
 (CH<sub>2</sub>) 6CH<sub>3</sub>
(CH<sub>2</sub>) 7CH<sub>3</sub>
(CH<sub>2</sub>) 8CH<sub>3</sub>
(CH<sub>2</sub>) 9CH<sub>3</sub>
CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH(CH3)2
CH2CH2CH2CH(CH3)2
сн<sub>2</sub>сн<sub>2</sub>сн (сн<sub>3</sub>) сн<sub>2</sub>сн<sub>2</sub>сн<sub>3</sub>
CH<sub>2</sub>CH (CH<sub>3</sub>) CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>
```

CH2CH (CH2CH3) CH2CH3 CH2CH2CH2CCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH(CH3)2 $CH_2OCH_2(C_6H_5)$ $CH_2OCH_2 (3CF_3-C_6H_4)$ CH_2OCH_2 (2C1- C_6H_4) CH2OCH2.(3SCH3=C6H4) CH_2OCH_2 (4C1-C6H4) CH_2OCH_2 (2, 4F-C₆H₃) CH2CH2OCH2CH2CH3 CH2O (C6H5) $CH_2O(3CF_3-C_6H_4)$ $CH_2O(4CF_3-C_6H_4)$ CH20 (2C1-C6H4) $CH_2O(3SCH_3-C_6H_4)$ $CH_2O(2CH_3-C_6H_4)$ $CH_2O(4C1-C_6H_4)$ $CH_2O(2,4C1-C_6H_3)$

CH2SCH2CH2CH3 CH2SCH2CH(CH3)2 $CH_2SCH_2(C_6H_5)$ CH_2SCH_2 (3CF₃-C₆H₄) CH2S (2C1-C6H4) CH2S (4CH3-C6H4) $CH_2S(2,4C1-C_6H_3)$ $CH_2S(3SCH_3-C_6H_4)$ $CH_2S(2,6C1-C_6H_3)$ CH₂S (C₆H₅) CH2S (3CF3-C6H4) CH2S (2C1-C6H4) CH2S (4CH3-C6H4) СH₂S (2, 6С1-С6H₃) $CH_2S(2,4C1-C_6H_3)$ CH2NHCH2CH3 CH2NHCH2CH2CH3 CH2NHCH2C(C6H5) CH2NHCH2CH (CH3) 2 CH_2NHCH_2 (3CF₃-C₆H₄) CH_2NHCH_2 (2C1- C_6H_4) CH₂NH (C₆H₅) $CH_2NH(2C1-C_6H_4)$ $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH_2 (CH_2) $_2CH_3$ OCH2 (CH2) 3CH3 OCH2 (CH2) 5CH3 OCH2C(C6H5) $OCH_2(3CF_3-C_6H_4)$ $OCH_2(2C1-C_6H_4)$ OCH₂CH (CH₃)₂ O(C6H5) $O(3CF_3-C_6H_4)$ 0 (2C1-C6H4)

O(2,4C1-C6H3) SCH2CH2CH3 SCH₂ (CH₂) ₂CH₃ SCH2 (CH2) 3CH3 SCH2 (CH2) 5CH3 SCH₂ (C₆H₅) SCH2 (3SCH3-C6H4) SCH2 (20CH3~C6H4) SCH2 (2C1-C6H4) SCH2 (2, 4-C6H3) SCH2 (4CF3-C6H4) S (CH3) 3 SCH2CH (CH3) 2 S (C6H5) S (3CF3-C6H4) S (2Cl-C6H4) S (40CH3-C6H4) S (2, 4C1-C6H3) S (2, 6F-C6H3) 2 (3CH3-C6H4) NHCH2CH2CH3 NHCH2 (CH2) 2CH3 NHCH2 (CH2) 4CH3 NHCH₂ (CH₂) ₅CH₃ NHCH2CH (CH3) 2 $NHCH_2 (C_6H_5)$ $NHCH_2$ (3CF3-C6H4) NHCH₂ (2C1-C₆H₄) NHCH₂ (4CH₃-C₆H₄) $NHCH_2(2, 4C1-C_6H_3)$ $NHCH_2(2,6C1-C_6H_3)$ NH (C₆H₅) NH (3CF3-C6H4) NH (2C1-C6H4)

O(4SCH3-C6H4)

СH₂SCH₂CH₃

NH (3CH3-C6H4) $NH(2,4C1-C_6H_3)$ $NH(2,6C1-C_6H_3)$ $N(CH_3)(3CF_3-C_6H_4)$ N (CH3) CH2CH2CH3 N(CH₂)₄ N (CH2) 5 N (CH₂) 6 $N(CH_2CH_2-OCH_2CH_2)_2$ CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH_2CH_2N (CH_3) CH_2CH_3 CH=CH (CH3) 2 CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH₂CH₂-C1 CH2CH2CH-C1CH2-C1 C₆H₅ 3CF3-C6H4 -2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6C1-C6H3 25CH3-C6H4 CH2 (C6H5) CH2 (3CF3-C6H4) $CH_2 (2C1-C_6H_4)$ CH2 (4C1-C6H4)

СH₂ (3SCH₃-C₆H₄) $CH_2 (30CH_3 - C_6H_4)$ $CH_2 (3C1-C_6H_4)$ $CH_2(2, 6F-C_6H_3)$ $CH_2(2,6C1-C_6H_3)$ $CH_2(3, 4F-C_6H_3)$ CH2-Si (CH3) 3 $ON=C(CH_3)_2$ ON=CH (C6H5) $ON=C(CH_3)C_6H_5$ $OCH_2(2, 6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 осн₂-сң 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl 0-2 (3CF₃-C₅H₃N) O-2C1-6CF3-C6H3 $R^1 = OCH_3$, $R^2 = CO_2H$ R3 (CH₂)₂CH₃ (CH₂) 3CH₃ (CH₂) 4CH₃ (CH₂) 5CH₃ (CH2) 6CH3 (CH₂) 7CH₃ (CH₂)₈CH₃ (CH₂) ₉CH₃ СH₂CH (CH₃) 2

СH2CH2CH (СН3) 2 CH2CH2CH2CH(CH3)2 CH_2CH_2CH (CH_3) $CH_2CH_2CH_3$. Сн₂сн (Сн₃) Сн₂Сн₂Сн₃ CH2CH (CH2CH3) CH2CH3 CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH(CH3)2 CH2CH2CH2CF2CH3 CH2-cyclopropyl CH₂-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 СH₂OCH₂CH (СH₃) ₂ · · · CH2OCH2 (C6H5) CH_2OCH_2 (3 $CF_3-C_6H_4$) CH_2OCH_2 (2C1- C_6H_4) СH₂ОСH₂ (3SCH₃-С₆H₄) CH_2OCH_2 (4C1-C₆H₄) $CH_2OCH_2(2, 4F-C_6H_3)$ CH2CH2OCH2CH2CH3 CH2O (C6H5) $CH_2O(3CF_3-C_6H_4)$ $CH_2O(4CF_3-C_6H_4)$ CH2O (2C1-C6H4) CH2O (3SCH3-C6H4)

 $CH_2(2,4C1-C_6H_3)$

	2	
CH ₂ O (2CH ₃ -C ₆ H ₄)	OCH ₂ CH (CH ₃) ₂	NHCH ₂ (2,6C1-C ₆ H ₃)
CH ₂ O(4C1-C ₆ H ₄)	o(C ₆ H ₅)	ин (C ₆ H ₅)
CH ₂ O(2,4Cl-C ₆ H ₃)	O(3CF3-C6H4)	NH (3CF3-C6H4)
CH2SCH2CH3	O(2C1-C6H4)	NH (2C1-C6H4)
CH2SCH2CH2CH3	O(4SCH3-C6H4)	NH (3CH3-C6H4)
CH2SCH2CH(CH3)2	O(2,4C1-C ₆ H ₃)	NH (2, 4C1-C6H3)
CH2SCH2 (C6H5)	SCH2CH2CH3	NH (2, 6C1-C6H3)
CH2SCH2 (3CF3-C6H4)	SCH ₂ (CH ₂) ₂ CH ₃	N(CH ₃) (3CF ₃ -C ₆ H ₄)
CH ₂ S (2C1-C ₆ H ₄)	SCH ₂ (CH ₂) ₃ CH ₃	N (СН3) СН2СН2СН3
CH ₂ S (4CH ₃ -C ₆ H ₄)	SCH ₂ (CH ₂) ₅ CH ₃	N (CH ₂) 4
CH ₂ S (2, 4C1-C ₆ H ₃)	SCH ₂ (C ₆ H ₅)	N (CH ₂) 5
CH2S (3SCH3-C6H4)	SCH2 (3SCH3-C6H4)	N (CH ₂) 6
CH ₂ S (2, 6C1-C ₆ H ₃)	SCH2 (20CH3-C6H4)	и (сн ₂ сн ₂ -осн ₂ сн ₂) ₂
СH ₂ S (С ₆ H ₅)	SCH ₂ (2C1-C ₆ H ₄)	сн ₂ со ₂ сн ₃
CH ₂ S (3CF ₃ -C ₆ H ₄)	SCH ₂ (2, 4-C ₆ H ₃)	CH2CH2CO2CH2CH3
CH ₂ S (2C1-C ₆ H ₄)	SCH ₂ (4CF ₃ -C ₆ H ₄)	сн ₂ сн ₂ со ₂ сн ₃
CH ₂ S (4CH ₃ -C ₆ H ₄)	s (CH ₃) ₃	сн ₂ сн ₂ осн ₂ сн ₃
CH ₂ S (2, 6C1-C ₆ H ₃)	SCH ₂ CH (CH ₃) ₂	сн ₂ сн ₂ scн ₂ сн ₃
CH ₂ S (2, 4C1-C ₆ H ₃)	s (C ₆ H ₅)	сн ₂ сн ₂ -инсн ₂ сн ₃
CH2NHCH2CH3	s (3CF ₃ -C ₆ H ₄)	сн ₂ сн ₂ и (сн ₃) сн ₂ сн ₃
CH2NHCH2CH2CH3	s(2C1-C ₆ H ₄)	Сн=Сн (Сн ₃) ₂
CH2NHCH2C (C6H5)	s (40CH3-C6H4)	СH ₂ CH ₂ CH=CH ₂
CH2NHCH2CH(CH3).2	S(2,4Cl-C ₆ H ₃)	сн ₂ сн=сн-сн ₃
CH_2NHCH_2 (3CF ₃ -C ₆ H ₄)	S(2,6F-C ₆ H ₃)	CH=CH-CH ₂ CH ₂ -Cl
CH2NHCH2 (2C1-C6H4)	2 (3CH3-C6H4)	CH2CH2CH-C1CH2-C1
CH ₂ NH (C ₆ H ₅)	NHCH2CH2CH3	C ₆ H ₅
CH ₂ NH (2C1-C ₆ H ₄)	NHCH ₂ (CH ₂) ₂ CH ₃	3CF ₃ -C ₆ H ₄
$CH_2N(CH_3)$ (2C1- C_6H_4)	NHCH ₂ (CH ₂) ₄ CH ₃	2C1-C ₆ H ₄
OCH ₂ CH ₂ CH ₃	инсн ₂ (сн ₂) ₅ сн ₃	3CH ₃ -С ₆ H ₄
OCH ₂ (CH ₂) ₂ CH ₃	NHCH ₂ CH (CH ₃) ₂	30CH ₃ -С ₆ H ₄
осн ₂ (Сн ₂) ₃ Сн ₃	инсн ₂ (С ₆ н ₅)	2CF3-C6H4
осн ₂ (сн ₂) ₅ сн ₃	инсн ₂ (эсг ₃ -с ₆ н ₄)	2,4C1-C6H3
OCH ₂ C (C ₆ H ₅)	NHCH ₂ (2C1-C ₆ H ₄)	2,6C1-C6H3
OCH ₂ (3CF ₃ -C ₆ H ₄)	NHCH ₂ (4CH ₃ -C ₆ H ₄)	2SCH3-C6H4
OCH ₂ (2C1-C ₆ H ₄)	NHCH ₂ (2, 4C1-C ₆ H ₃)	СH ₂ (С ₆ H ₅)

C6H3) F3-C6H4) сн₂сн₃ OCH₂CH₂)₂ CH₂CH₃ СНЗ 2CH3 2CH3 CH₂CH₃ н₃) сн₂сн₃ 2 CH₂ CH₃ CH2-C1 С1СH2-С1 |CH₂ (C₆H₅)

 $CH_2 (3CF_3 - C_6H_4)$ $CH_2(2C1-C_6H_4)$ $CH_2 (4C1-C_6H_4)$ $CH_2(2,4C1-C_6H_3)$ CH2 (3SCH3-C6H4) CH2 (30CH3-C6H4) CH2 (3C1-C6H4) $CH_2(2, 6F-C_6H_3)$ $CH_2(2,6C1-C_6H_3)$ $CH_2(3, 4F-C_6H_3)$ CH2-Si (CH3) 3 ON=C (CH3) 2 ON=CH (C6H5) ON=C (CH3) C6H5 $OCH_2(2, 6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 OCH2-CH 4F-C6H4 4C1-C6H4

4Cl-C₆H₄

4Br-C₆H₄

2-pyridyl

2-furyl

2-thiazolyl

2-imidazolyl

0-2(3CF₃-C₅H₃N)

0-2C1-6CF3-C6H3

 R^{I} =OCF₃, R^{2} =CO₂H R^{3} (CH₂)₂CH₃

(CH₂) ₃CH₃ (CH₂) ₄CH₃

(CH₂) 5CH₃

(CH₂) 6CH₃

(CH2) 7CH3 (CH₂) 8CH₃ (CH₂) ₉CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH (CH3) CH2CH2CH3 CH2CH (CH3) CH2CH2CH3 CH₂CH (CH₂CH₃) CH₂CH₃ CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH (CH3) 2 CH2CH2CH2CF2CH3 CH₂-cyclopropyl CH2-cyclobutyl CH2-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl. cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH (CH3) 2 $CH_2OCH_2(C_6H_5)$ CH_2OCH_2 (3CF₃-C₆H₄) $CH_2OCH_2(2C1-C_6H_4)$ CH2OCH2 (3SCH3-C6H4) CH2OCH2 (4C1-C6H4) CH_2OCH_2 (2, 4F- C_6H_3)

CH2CH2OCH2CH2CH3

 $CH_2O(C_6H_5)$

CH₂O (3CF₃-C₆H₄) CH₂O (4CF₃-C₆H₄) CH2O (2C1-C6H4) CH2O (3SCH3-C6H4) CH2O (2CH3-C6H4) CH2O(4C1-C6H4) CH20(2, 4C1-C6H3) CH2SCH2CH3 CH2SCH2CH2CH3 CH2SCH2CH(CH3)2 CH2SCH2 (C6H5) CH₂SCH₂ (3CF₃-C₆H₄) CH2S (2C1-C6H4) $CH_2S(4CH_3-C_6H_4)$ $CH_2S(2, 4C1-C_6H_3)$ CH₂S (3SCH₃-C₆H₄) СH₂S (2,6Cl-C₆H₃) CH2S (C6H5) $CH_2S(3CF_3-C_6H_4)$ CH₂S (2C1-C₆H₄) CH2S (4CH3-C6H4) $CH_2S(2,6C1-C_6H_3)$ $CH_2S(2,4C1+C_6H_3)$ CH2NHCH2CH3 CH2NHCH2CH2CH3 CH2NHCH2C(C6H5) CH2NHCH2CH (CH3) 2 $CH_2NHCH_2(3CF_3-C_6H_4)$ CH2NHCH2 (2C1-C6H4) CH2NH(C6H5) $CH_2NH(2C1-C_6H_4)$ $CH_2N(CH_3)(2C1-C_6H_4)$ OCH2CH2CH3 OCH2 (CH2) 2CH3 OCH2 (CH2) 3CH3

OCH2 (CH2) 5CH3 $OCH_2C(C_6H_5)$. $OCH_2 (3CF_3 - C_6H_4)$ $OCH_2 (2C1-C_6H_4)$ OCH2CH (CH3) 2 O(C6H5) O(3CF3-C6H4) O(2C1-C6H4) O(4SCH3-C6H4) O(2,4C1-C6H3) SCH2CH2CH3 SCH2 (CH2) 2CH3 SCH2 (CH2) 3CH3 SCH2 (CH2) 5CH3 SCH2 (C6H5) SCH2 (3SCH3-C6H4) SCH2 (20CH3-C6H4) SCH2 (2C1-C6H4) SCH2 (2, 4-C6H3) SCH2 (4CF3-C6H4) S (CH3) 3 SCH2CH (CH3) 2 S (C6H5). ... S (3CF3-C6H4) S (2C1-C6H4) S (40CH3-C6H4) S(2,4C1-C6H3) \$ (2, 6F-C6H3) 2 (3CH3-C6H4) NHCH2CH2CH3 NHCH2 (CH2) 2CH3 NHCH2 (CH2) 4CH3 NHCH2 (CH2) 5CH3 NHCH2CH (CH3) 2 NHCH₂ (C₆H₅)

 $NHCH_2$ (3CF3-C6H4) NHCH₂ (2C1-C₆H₄) NHCH₂ (4CH₃-C₆H₄) $NHCH_2(2, 4C1-C_6H_3)$ $NHCH_2(2,6C1-C_6H_3)$ NH (C6H5) $NH(3CF_3-C_6H_4)$ NH (2C1-C6H4) NH (3CH3-C6H4) $NH(2, 4C1-C_6H_3)$ NH (2,6C1-C6H3) $N(CH_3)(3CF_3-C_6H_4)$ n (CH3) CH2CH2CH3 N (CH₂) 4 N(CH₂)₅ N (CH₂) 6 N (CH2CH2-OCH2CH2) 2 CH2CO2CH3 CH2CH2CO2CH2CH3 CH2CH2CO2CH3 СH2СH2ОСH2СH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH2CH2N (CH3) CH2CH3 CH=CH (CH₃)₂ CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH₂CH₂-C1 CH2CH2CH-C1CH2-C1 C6H5 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4

2,4C1-C6H3 2,6C1-C6H3 2SCH3-C6H4 $CH_2 (C_6H_5)$ $CH_2 (3CF_3 - C_6H_4)$ $CH_2 (2C1-C_6H_4)$ CH2 (4C1-C6H4) CH₂ (2, 4C1-C₆H₃) CH2 (3SCH3-C6H4) CH₂ (30CH₃-C₆H₄) CH2 (3C1-C6H4) $CH_2(2,6F-C_6H_3)$ $CH_2(2,6C1-C_6H_3)$ $CH_2(3, 4F-C_6H_3)$ CH2-Si (CH3) 3 ON=C (CH₃) 2 ON=CH (C6H5) ON=C (CH3) C6H5 OCH₂ (2, 6-C1-C₆H₃) OCH2 (C=CH2) CH3 осн₂-сң CH2 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl $0-2 (3CF_3-C_5H_3N)$ 0-2C1-6CF3-C6H3 $R^1 = OCF_2H$, $R^2 = CO_2H$ \mathbb{R}^3 (CH₂)₂CH₃

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	7	
(CH ₂) ₃ CH ₃	CH2OCH2 (4C1-C6H4)	CH ₂ N (CH ₃) (2C1-C ₆ H ₄)
(CH ₂) 4CH ₃	CH2OCH2 (2, 4F-C6H3)	OCH2CH2CH3.
(CH ₂) ₅ CH ₃	CH2CH2OCH2CH2CH3	OCH ₂ (CH ₂) ₂ CH ₃
(CH ₂) 6CH ₃	CH ₂ O(C ₆ H ₅)	осн ₂ (сн ₂) ₃ сн ₃
(CH ₂) ₇ CH ₃	CH2O(3CF3-C6H4)	осн ₂ (сн ₂) ₅ сн ₃
(CH ₂) 8CH ₃	CH ₂ O(4CF ₃ -C ₆ H ₄)	осн ₂ с (с ₆ н ₅)
(CH ₂) ₉ CH ₃	CH ₂ O (2C1-C ₆ H ₄)	OCH ₂ (3CF ₃ -C ₆ H ₄)
CH ₂ CH (CH ₃) ₂	CH2O(3SCH3-C6H4)	OCH ₂ (2C1-C ₆ H ₄)
CH2CH2CH(CH3)2	CH ₂ O (2CH ₃ -C ₆ H ₄)	осн ₂ сн (сн ₃) ₂
CH2CH2CH2CH(CH3)2	CH ₂ O (4C1-C ₆ H ₄)	O(C6H5)
CH2CH2CH(CH3)CH2CH2CH3	CH ₂ O(2,4C1-C ₆ H ₃)	O(3CF3-C6H4)
Сн ₂ Сн (Сн ₃) Сн ₂ Сн ₂ Сн ₃	CH2SCH2CH3	O(2C1-C6H4)
CH2CH (CH2CH3) CH2CH3	CH2SCH2CH2CH3	O(4SCH3-C6H4)
CH2CH2CH2OCH2CH3	CH2SCH2CH(CH3)2	O(2,4C1-C6H3)
сн ₂ сн ₂ сн ₂ сн ₂ осн ₃	CH2SCH2 (C6H5)	SCH2CH2CH3
CH2CH2CH2-S-CH2CH3	CH2SCH2 (3CF3-C6H4)	SCH ₂ (CH ₂) ₂ CH ₃
сн ₂ сн ₂ сн ₂ сн ₂ scн ₃	CH2S (2C1-C6H4)	scн ₂ (сн ₂) ₃ сн ₃
CH2CH2CH2NHCH2CH3	CH2S (4CH3-C6H4)	sch ₂ (сн ₂) ₅ сн ₃
CH2CF2CH (CH3)2	CH ₂ S (2, 4C1-C ₆ H ₃)	scн ₂ (С ₆ н ₅)
CH2CH2CH2CF2CH3	сн ₂ s (зscн ₃ -c ₆ н ₄)	SCH2 (3SCH3-C6H4)
CH ₂ -cyclopropyl	CH ₂ S (2, 6C1-C ₆ H ₃)	SCH ₂ (20CH ₃ -C ₆ H ₄)
CH ₂ -cyclobutyl	сн ₂ s (с ₆ н ₅)	SCH ₂ (2Cl-C ₆ H ₄)
CH2-cyclopentyl · · · · · · ·	CH2S (3CF3-C6H4)	SCH ₂ (2, 4-C ₆ H ₃)
CH2-cyclohexyl	сн ₂ s (2с1-с ₆ н ₄)	SCH ₂ (4CF ₃ -C ₆ H ₄)
cyclopropyl	CH ₂ S (4CH ₃ -C ₆ H ₄)	s (CH ₃) ₃
cyclobutyl	СH ₂ S (2,6C1-C ₆ H ₃)	SCH ₂ CH (CH ₃) ₂
cyclopentyl	CH ₂ S (2, 4C1-C ₆ H ₃)	s (C ₆ H ₅)
cyclohexyl	CH2NHCH2CH3	S (3CF3-C6H4)
CH ₂ OCH ₂ CH ₃	CH ₂ NHCH ₂ CH ₂ CH ₃	S(2C1-C6H4)
CH2OCH2CH2CH3	СH ₂ NHCH ₂ C (С ₆ H ₅)	S (40CH3-C6H4)
CH ₂ OCH ₂ CH (CH ₃) ₂	CH2NHCH2CH (CH3) 2	s(2,4C1-C ₆ H ₃)
CH ₂ OCH ₂ (C ₆ H ₅)	CH2NHCH2 (3CF3-C6H4)	S(2,6F-C ₆ H ₃)
CH ₂ OCH ₂ (3CF ₃ -C ₆ H ₄)	CH2NHCH2 (2C1-C6H4)	2 (3CH ₃ -C ₆ H ₄)
CH_2OCH_2 (2C1-C ₆ H ₄)	CH ₂ NH (C ₆ H ₅)	NHCH2CH2CH3
CH2OCH2 (3SCH3-C6H4)	CH2NH (2C1-C6H4)	NHCH ₂ (CH ₂) ₂ CH ₃

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NHCH2 (CH2) 4CH3 NHCH2 (CH2) 5CH3 NHCH2CH (CH3) 2 NHCH2 (C6H5) NHCH₂ (3CF₃- C_6H_4) $NHCH_{2}(2C1-C_{6}H_{4})$ NHCH2 (4CH3-C6H4) $NHCH_2(2, 4C1-C_6H_3)$ $NHCH_2$ (2, 6C1-C₆H₃) NH (C6H5) $NH(3CF_3-C_6H_4)$ NH (2C1-C6H4) NH (3CH3-C6H4) $NH(2,4C1-C_6H_3)$ $NH(2,6C1-C_6H_3)$ $N(CH_3)(3CF_3-C_6H_4)$ N (CH3) CH2CH2CH3 N (CH₂) 4 N (CH2) 5 N (CH₂) 6 $N(CH_2CH_2-OCH_2CH_2)_2$ CH2CO2CH3 CH2CH2CO2CH2CH3~ CH2CH2CO2CH3 CH2CH2OCH2CH3 CH2CH2SCH2CH3 CH2CH2-NHCH2CH3 CH2CH2N (CH3) CH2CH3 CH=CH (CH₃)₂ CH2CH2CH=CH2 CH2CH=CH-CH3 CH=CH-CH₂CH₂-Cl CH2CH2CH-ClCH2-C1 C₆H₅

2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6C1-C6H3 25CH3-C6H4 CH₂ (C₆H₅) $CH_2 (3CF_3 - C_6H_4)$ CH2 (2C1-C6H4) CH2 (4C1-C6H4) $CH_2(2,4C1-C_6H_3)$ CH2 (3SCH3-C6H4) CH2 (30CH3-C6H4) CH2 (3C1-C6H4) CH₂ (2, 6F-C₆H₃) $CH_2(2,6C1-C_6H_3)$ CH₂ (3, 4F-C₆H₃) CH2-Si (CH3) 3 ON=C (CH3) 2 ON=CH (C6H5) ON=C (CH3) C6H5 $OCH_2(2,6-C1-C_6H_3)$ OCH2 (C=CH2) CH3 OCH2-CH 4F-C6H4 4C1-C6H4 4Br-C6H4 2-pyridyl 2-furyl 2-thiazolyl 2-imidazolyl 0-2 (3CF3~C5H3N) |0-2C1-6CF₃-С₆Н₃

 $R^1 = NO_2$, $R^2 = CO_2H$ R^3 (CH2) 2CH3 (CH₂) 3CH₃ (CH₂) 4CH₃ (CH₂) 5CH₃ (CH₂) 6CH₃ (CH2)7CH3 (CH2) 8CH3 (CH₂) 9CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2CH2CH2CH(CH3)2 CH2CH2CH (CH3) CH2CH2CH3 СH₂CH (СH₃) СH₂CH₂CH₃ CH2CH (CH2CH3) CH2CH3 CH2CH2CH2OCH2CH3 CH2CH2CH2CH2OCH3 CH2CH2CH2-S-CH2CH3 CH2CH2CH2CH2SCH3 CH2CH2CH2NHCH2CH3 CH2CF2CH.(CH3) 2-CH2CH2CH2CF2CH3 CH2-cyclopropyl CH₂-cyclobutyl CH₂-cyclopentyl CH2-cyclohexyl cyclopropyl cyclobutyl cyclopentyl cyclohexyl CH2OCH2CH3 CH2OCH2CH2CH3 CH2OCH2CH (CH3) 2

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3CF3-C6H4

$CH_2OCH_2 (C_6H_5)$
CH ₂ OCH ₂ (3CF ₃ -С ₆ H ₄)
CH2OCH2 (2C1-C6H4)
СH ₂ OCH ₂ (3SCH ₃ -C ₆ H ₄
CH2OCH2 (4C1-C6H4)
CH2OCH2 (2, 4F-C6H3)
сн ₂ сн ₂ осн ₂ сн ₂ сн ₃
СH ₂ O (С ₆ H ₅)
CH ₂ O(3CF ₃ -C ₆ H ₄)
$CH_2O(4CF_3-C_6H_4)$
CH ₂ O (2C1-C ₆ H ₄)
CH2O (3SCH3-C6H4)
CH ₂ O(2CH ₃ -C ₆ H ₄)
CH ₂ O(4C1-C ₆ H ₄)
CH ₂ O(2,4C1-C ₆ H ₃)
CH2SCH2CH3
сн ₂ scн ₂ сн ₂ сн ₃
CH2SCH2CH (CH3) 2
.CH ₂ SCH ₂ (C ₆ H ₅)
$\mathtt{CH_2SCH_2} \hspace{0.05cm} (\mathtt{3CF_3-C_6H_4})$
$CH_2S(2C1-C_6H_4)$
CH ₂ S (4CH ₃ -C ₆ H ₄)
CH ₂ S ₂ (2,4C1-C ₆ H ₃).
CH ₂ S (3SCH ₃ -C ₆ H ₄)
$CH_2S(2,6C1-C_6H_3)$
CH ₂ S (C ₆ H ₅)
CH ₂ S (3CF ₃ -C ₆ H ₄)
CH ₂ S (2C1-C ₆ H ₄)
CH ₂ S (4CH ₃ -C ₆ H ₄)
$CH_2S(2,6C1-C_6H_3)$
$CH_2S(2, 4C1-C_6H_3)$
CH2NHCH2CH3
CH2NHCH2CH2CH3
$CH_2NHCH_2C(C_6H_5)$

Сн ₂ инсн ₂ (ЗСF ₃ -С ₆ н ₄
CH2NHCH2 (2C1-C6H4)
СH ₂ NH (С ₆ H ₅)
CH2NH (2C1-C6H4)
CH ₂ N (CH ₃) (2C1-C ₆ H ₄)
OCH2CH2CH3
осн ₂ (сн ₂) ₂ сн ₃
осн ₂ (сн ₂) ₃ сн ₃
осн ₂ (сн ₂) ₅ сн ₃
осн ₂ с (с ₆ н ₅)
OCH ₂ (3CF ₃ -C ₆ H ₄)
OCH ₂ (2C1-C ₆ H ₄)
осн ₂ сн (сн ₃) ₂
о(С ₆ н ₅)
0(3CF ₃ -C ₆ H ₄)
0 (2C1-С ₆ H ₄)
O(4SCH3-C6H4)
O(2,4C1-C ₆ H ₃)
sch ₂ ch ₂ ch ₃
SCH ₂ (CH ₂) ₂ CH ₃
scн ₂ (сн ₂) ₃ сн ₃
SCH ₂ (CH ₂) ₅ CH ₃
scн ₂ (с ₆ н ₅)
SCH ₂ (3SCH ₃ -C ₆ H ₄)
SCH ₂ (20CH ₃ -C ₆ H ₄)
SCH ₂ (2C1-C ₆ H ₄)
SCH ₂ (2,4-C ₆ H ₃)
SCH ₂ (4CF ₃ -C ₆ H ₄)
S (CH ₃) 3
SCH ₂ CH (CH ₃) ₂
S(C ₆ H ₅)
S(3CF ₃ -C ₆ H ₄)
S (2C1-C ₆ H ₄)
S (40CH ₃ -C ₆ H ₄)
S(2,4C1-C ₆ H ₃)

```
S(2,6F-C6H3)
  2 (3CH3-C6H4)
  NHCH2CH2CH3
  NHCH<sub>2</sub> (CH<sub>2</sub>) <sub>2</sub>CH<sub>3</sub>
 NHCH2 (CH2) 4CH3
 NHCH2 (CH2) 5CH3
 NHCH2CH (CH3) 2
 NHCH<sub>2</sub> (C<sub>6</sub>H<sub>5</sub>)
 инсн<sub>2</sub> (эсг<sub>3</sub>-с<sub>6</sub>н<sub>4</sub>)
 NHCH<sub>2</sub> (2C1-C<sub>6</sub>H<sub>4</sub>)
 NHCH2 (4CH3-C6H4)
 NHCH<sub>2</sub> (2, 4C1-C<sub>6</sub>H<sub>3</sub>)
 NHCH<sub>2</sub> (2,6C1-C<sub>6</sub>H<sub>3</sub>)
 NH (C<sub>6</sub>H<sub>5</sub>)
 NH (3CF3-C6H4)
 NH (2C1-C6H4)
 NH (3CH3-C6H4)
 NH (2, 4C1-C6H3)
NH (2,6C1-C6H3)
N(CH<sub>3</sub>) (3CF<sub>3</sub>-C<sub>6</sub>H<sub>4</sub>)
N (CH<sub>3</sub>) CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>
N (CH<sub>2</sub>) 4
N (CH2)-5 ....
N (CH<sub>2</sub>) 6
N(CH2CH2-OCH2CH2)2
CH<sub>2</sub>CO<sub>2</sub>CH<sub>3</sub>
сн<sub>2</sub>сн<sub>2</sub>со<sub>2</sub>сн<sub>2</sub>сн<sub>3</sub>
CH2CH2CO2CH3
CH2CH2OCH2CH3
CH2CH2SCH2CH3
CH2CH2-NHCH2CH3
CH2CH2N (CH3) CH2CH3
CH=CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH=CH2
CH2CH=CH-CH3
```

CH2NHCH2CH (CH3) 2

CH=CH-CH2CH2-Cl CH2CH2CH-C1CH2-C1 C₆H₅ 3CF3-C6H4 2C1-C6H4 3CH3-C6H4 30CH3-C6H4 2CF3-C6H4 2,4C1-C6H3 2,6C1-C6H3 2SCH3-C6H4 CH₂ (C₆H₅) CH2 (3CF3-C6H4) $CH_2 (2C1-C_6H_4)$ CH2 (4C1-C6H4) $CH_2(2,4C1-C_6H_3)$ $CH_2 (3SCH_3 - C_6H_4)$ $CH_2 (30CH_3 - C_6H_4)$ CH_2 (3C1-C₆H₄) $CH_2(2, 6F-C_6H_3)$ $CH_2(2,6C1-C_6H_3)$ $CH_2(3, 4F-C_6H_3)$

R¹=Cl, R²=CO₂CH₃

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂

3CF3-C6H4 2C1-C6H4 $R^1=Br$, $R^2=CO_2CH_3$ ВЗ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^{1}=I$, $R^{2}=CO_{2}CH_{3}$ R³ (CH₂) 3CH₃ CH2CH (CH3) 2 CH₂CH₂CH (CH₃) _{2} CH2-cyclopentyl CH₂O(C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

 $R^1 = OCH_3$, $R^2 = CO_2CH_3$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1 = OCF_3$, $R^2 = CO_2CH_3$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃).2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = OCF_2H$, $R^2 = CO_2CH_3$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2

C₆H₅

 $\begin{array}{c} \text{CH}_2\text{-cyclopentyl} \\ \text{CH}_2\text{O}\left(\text{C}_6\text{H}_5\right) \\ \text{CH}_2\text{SCH}_2\text{CH}\left(\text{CH}_3\right) 2 \\ \text{CH}_2\text{NHCH}_2\text{CH}\left(\text{CH}_3\right) 2 \\ \text{OCH}_2\text{CH}\left(\text{CH}_3\right) 2 \\ \text{NHCH}_2\text{CH}\left(\text{CH}_3\right) 2 \\ \text{C}_6\text{H}_5 \\ \text{3CF}_3\text{-C}_6\text{H}_4 \\ \text{2Cl}\text{-C}_6\text{H}_4 \end{array}$

 $R^{1}=C1$, $R^{2}=CO_{2}CH_{2}CH_{3}$ R^{3} $(CH_{2})_{3}CH_{3}$ $CH_{2}CH_{2}CH_{3}CH_{3}$ $CH_{2}CH_{2}CH_{3}CH_{3}$ $CH_{2}-cyclopentyl$ $CH_{2}O_{3}CH_{2}CH_{3}CH_{3}$ $CH_{2}SCH_{2}CH_{3}CH_{3}$ $CH_{2}NHCH_{2}CH_{3}CH_{3}$

NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=Br$, $R^2=CO_2CH_2CH_3$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20(C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3)2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=CO_2CH_2CH_3$ R3 (CH₂) 3CH₃ СH₂CH (СH₃) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅

3CF3-C6H4

2C1-C6H4

 $R^{1}=OCH_{3}$, $R^{2}=CO_{2}CH_{2}CH_{3}$ R3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^{1} =OCF₃, R^{2} =CO₂CH₂CH₃ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R¹=OCF₂H, R²=CO₂CH₂CH₃ (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3)2

CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃) 2
CH₂NHCH₂CH(CH₃) 2
OCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

 $R^1=C1$, $R^2=CHO$

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂

NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=Br$, $R^2=CHO$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^{1}=I$, $R^{2}=CHO$ RЗ (CH2) 3CH3 CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH(CH3)2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 R^1 =OCH₃, R^2 =CHO R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 R¹=OCF₃, R²∞CHO RЗ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =OCF₂H, R^2 =CHO B3 (CH₂) 3CH₃

СН₂СН (СН₃) ₂ СН₂СН₂СН (СН₃) ₂

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CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃) 2
CH₂NHCH₂CH(CH₃) 2
OCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

 $R^{1}=NO_{2}$, $R^{2}=CHO$ R^{3} $(CH_{2})_{3}CH_{3}$ $CH_{2}CH_{2}CH_{3})_{2}$ $CH_{2}CH_{2}CH_{3}CH_{2}$ $CH_{2}-cyclopentyl$ $CH_{2}O_{3}CH_{2}CH_{3}CH_{3}$ $CH_{2}CH_{2}CH_{3}CH_{3}$ $CH_{2}CH_{2}CH_{3}CH_{3}$ $CH_{2}CH_{3}CH_{3}$ $CH_{2}CH_{3}CH_{3}$ $CH_{2}CH_{3}CH_{3}$ $CCH_{2}CH_{3}CH_{3}$ $CCH_{2}CH_{3}CH_{3}$ $CCH_{2}CH_{3}CH_{3}$ $CCH_{2}CH_{3}CH_{3}$ $CCH_{2}CH_{3}CH_{3}$ $CCH_{3}CH_{3}CH_{3}$ $CCH_{3}CH_{3}CH_{4}$ $CCL_{3}CH_{4}$

R¹=Cl, R²=CmCH

R³

(CH₂) ₃CH₃

CH₂CH (CH₃) ₂

CH₂CH₂CH (CH₃) ₂

CH₂-cyclopentyl

CH₂O (C₆H₅)

CH₂SCH₂CH (CH₃) ₂

CH₂NHCH₂CH (CH₃) ₂

NHCH₂CH (CH₃) ₂

C6H5 3CF3-C6H4 2C1-C6H4 R1=Br, R2=C=CH R3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH2CH (CH3)2 NHCH₂CH (CH₃)₂ C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=C=CH$ $\mathbf{R}^{\mathbf{3}}$ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH (CH3) 2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3)2 C₆H₅ 3CF3-C6H4

2C1-C6H4

 $R^1 = OCH_3$, $R^2 = C = CH$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH₂CH (CH₃)₂ C6H5 3CF3-C6H4 2C1-C6H4 R^1 =OCF₃, R^2 =C=CH R3 (CH₂) 3CH₃ CH2CH (CH3) 2 СH₂CH₂CH (СH₃)₂ CH2-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3)2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = OCF_2H$, $R^2 = C = CH$ R^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2

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CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)2
CH₂NHCH₂CH(CH₃)2
OCH₂CH(CH₃)2
NHCH₂CH(CH₃)2
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=NO₂, R²=C=CH

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=Cl, R²=CH=N-OH

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂

NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 R¹=Br, R²=CH=N-OH \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=CH=N-OH$ R3 (CH₂).3CH3..... CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

 R^1 =OCH₃, R^2 =CH=N-OH R3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCF3, R2=CH=N-OH RЗ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20(C6H5) CH₂SCH₂CH (CH₃) 2········ CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 R1=OCF2H, R2=CH=N-OH (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2

CH₂-cyclopentyl

CH₂O (C₆H₅)

CH₂SCH₂CH (CH₃) 2

CH₂NHCH₂CH (CH₃) 2

OCH₂CH (CH₃) 2

NHCH₂CH (CH₃) 2

C₆H₅

3CF₃-C₆H₄

2C1-C₆H₄

R¹=NO₂, R²=CH=N-OH
R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopenty1
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=C1, R²=CH=N-OCH₃

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂

NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =Br, R^2 =CH=N-OCH₃ \mathbf{R}^{3} (CH₂)₃CH₃ CH2CH (CH3)2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=CH=N-OCH_3$ RЭ (CH₂) 3CH3 CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅

3CF3-C6H4

2C1-C6H4

 R^1 =OCH₃, R^2 =CH=N-OCH₃ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3)2 C6H5 3CF3-C6H4 2C1-C6H4 R^1 =OCF₃, R^2 =CH=N-OCH₃ \mathbb{R}^3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) СH₂SCH₂CH (СН₃)-2-CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 R^1 =OCF₂H, R^2 =CH=N-OCH₃ ВЗ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2

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CH2-cyclopentyl
CH_2O(C_6H_5) ...
CH2SCH2CH(CH3)2
CH2NHCH2CH (CH3) 2
OCH2CH (CH3) 2
NHCH2CH (CH3) 2
C6H5
3CF3-C6H4
2C1-C6H4
  R^1=NO_2, R^2=CH=N-OCH_3
\mathbb{R}^3
(CH<sub>2</sub>) 3CH<sub>3</sub>
CH2CH (CH3) 2
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH20 (C6H5)
CH2SCH2CH(CH3)2
CH2NHCH2CH (CH3) 2
OCH2CH (CH3) 2
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
R^1=C1, R^2=CH=N-OCH<sub>2</sub>CH<sub>3</sub>
\mathbf{R}^{\mathbf{3}}
(CH<sub>2</sub>) 3CH<sub>3</sub>
CH2CH (CH3) 2
CH2CH2CH(CH3)2
CH2-cyclopentyl
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```
NHCH2CH (CH3) 2
 C<sub>6</sub>H<sub>5</sub>
 3CF3-C6H4
 2C1-C6H4
 R1=Br, R2=CH=N-OCH2CH3
\mathbb{R}^3
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH(CH3)2
 CH2-cyclopentyl
CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
 CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3) 2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
  R^1=I, R^2=CH=N-OCH_2CH_3
R3
 (CH<sub>2</sub>) 3CH3 ...
CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
CH2SCH2CH(CH3)2
CH2NHCH2CH (CH3) 2
OCH2CH (CH3) 2
NHCH2CH (CH3) 2
C6H5
3CF3-C6H4
2C1-C6H4
```

```
R^1=OCH<sub>3</sub>,
          R2=CH=N-OCH2CH3
 R3
  (CH<sub>2</sub>) 3CH<sub>3</sub>
  CH2CH (CH3) 2
 CH2CH2CH(CH3)2
  CH2-cyclopentyl
  CH<sub>2</sub>O(C<sub>6</sub>H<sub>5</sub>)
  CH2SCH2CH(CH3)2
 CH2NHCH2CH(CH3)2
 OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
 NHCH2CH (CH3) 2
 C<sub>6</sub>H<sub>5</sub>
 3CF3-C6H4
 2C1-C6H4
                R1=OCF3,
         R2=CH=N-OCH2CH3
 RЗ
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
 СH<sub>2</sub>CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
 CH2-cyclopentyl
 CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
 CH<sub>2</sub>SCH<sub>2</sub>CH (CH<sub>3</sub>) 2
 CH2NHCH2CH (CH3) 2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
C6H5
3CF3-C6H4
2C1-C6H4
              R1=OCF2H,
        R2=CH=N-OCH2CH3
R3
 (CH<sub>2</sub>) 3CH<sub>3</sub>
```

CH2O (C6H5)

OCH2CH (CH3) 2

CH2SCH2CH (CH3) 2

CH2NHCH2CH (CH3) 2

CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2Cl-C₆H₄

 $R^1=NO_2$, $R^2=CH=N-OCH_2CH_3$

B³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

 R^1 =C1, R^2 =C(NH₂)=N-OH R^3 (CH₂)₃CH₃ CH₂CH(CH₃)₂ CH₂CH₂CH(CH₃)₂ CH₂-cyclopentyl CH₂O(C₆H₅)

CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=Br$, $R^2=C(NH_2)=N-OH$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R¹=I, R²=C(NH₂)=N-OH R³ (CH₂)₃CH₃ CH₂CH(CH₃)₂ CH₂CH₂CH(CH₃)₂ CH₂-cyclopentyl CH₂O(C₆H₅) CH₂SCH₂CH(CH₃)₂ CH₂NHCH₂CH(CH₃)₂ OCH₂CH(CH₃)₂ NHCH₂CH(CH₃)₂

C₆H₅

3CF3-C6H4 2C1-C6H4 R1=OCH3, $R^2 = C(NH_2) = N - OH$ R3 (CH₂) 3CH₃ СH₂СH (СH₃) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R¹=OCF₃,

R²=C(NH₂)=N-OH

R³

(CH₂)₃CH₃

CH₂CH(CH₃)₂

CH₂CH₂CH(CH₃)₂

CH₂-cyclopentyl

CH₂O(C₆H₅)

CH₂SCH₂CH(CH₃)₂

CH₂NHCH₂CH(CH₃)₂

OCH₂CH(CH₃)₂

NHCH₂CH(CH₃)₂

C₆H₅

3CF₃-C₆H₄

R¹=OCF₂H,

R²=C(NH₂)=N-OH

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

72 $R^1=C1,$ $R^2=C=N-OCH_3$ R3 (CH₂) 3CH₃ CH2CH(CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 R1=Br,

C1

R³

(CH₂)₃CH₃

CH₂CH (CH₃)₂

CH₂CH₂CH (CH₃)₂

CH₂CO(C₆H₅)

CH₂SCH₂CH (CH₃)₂

CH₂NHCH₂CH (CH₃)₂

OCH₂CH (CH₃)₂

NHCH₂CH (CH₃)₂

C₆H₅

3CF₃-C₆H₄

2C1-C6H4

 $R^{1}=I$, R²-C=N-OCH₃ R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl СH₂O (С₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3)2 OCH2CH (CH3) 2" NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCH3, R2-C-N-OCH3 R³ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5)

CH₂SCH₂CH (CH₃) 2

CH2NHCH2CH(CH3)2

OCH2CH (CH3)2

NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

 R^1 =OCF₃, R^2 = φ =N-OCH₃

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

 R^1 =OCF₂H, R^2 = ζ =N-OCH₃

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

 $R^1=NO_2$, $R^2=\varphi=N-OCH_3$ C1

C1

R³

(CH₂) ₃CH₃

CH₂CH (CH₃) ₂

CH₂CH₂CH (CH₃) ₂

CH₂-cyclopentyl

CH₂O (C₆H₅)

CH₂SCH₂CH (CH₃) ₂

CH₂NHCH₂CH (CH₃) ₂

NHCH₂CH (CH₃) ₂

3CF₃-C₆H₄
2C1-C₆H₄

R¹=C1, R²=C(CN)=N-OH

C6H5

 \mathbb{R}^3 $(CH_2)_3CH_3$ $CH_2CH_3CH_2$ $CH_2CH_2CH_3CH_3$ $CH_2CH_3CH_3$ $CH_2CH_3CH_3$ $CH_3CH_3CH_3$ $CH_3CH_3CH_3$ $CH_3CH_3CH_3CH_3$ $CH_3CH_3CH_3CH_3$

 ${
m CH_2NHCH_2CH\,(CH_3)_2}$ ${
m OCH_2CH\,(CH_3)_2}$ ${
m NHCH_2CH\,(CH_3)_2}$ ${
m C_6H_5}$

3CF₃-C₆H₄ 2C1-C₆H₄

 R^1 =Br, R^2 =C(CN)=N-OH R^3

(CH₂) 3CH₃

CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂

OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂

С₆н₅ ЗСГ₃-С₆н₄ 2С1-С₆н₄

 $R^1=I$, $R^2=C$ (CN)=N-OH

в³ (Сн₂) _ЗСн_З

CH₂CH (CH₃)₂

CH₂CH₂CH (CH₃)₂ CH₂-cyclopentyl

CH₂O (C₆H₅)

СH₂SCH₂CH (СН₃) 2

CH₂NHCH₂CH (CH₃)₂

осн₂сн (сн₃) ₂ инсн₂сн (сн₃) ₂

С₆н₅ 3СF₃-С₆н₄

2C1-C6H4

 R^1 =OCH₃, R^2 =C(CN)=N-OH

R³

(CH₂) 3CH₃

СH₂CH (СH₃) 2

СH₂CH₂CH (СH₃)₂

CH₂-cyclopentyl

СH₂O (С₆H₅)

СH₂SCH₂CH (СН₃) 2

CH2NHCH2CH(CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = OCF_3$, $R^2 = C(CN) = N - OH$ R^3 (CH₂)₃CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCF2H,... $R^2=C(CN)=N-OH$ ß3 (CH₂)₃CH₃ CH2CH (CH3) 2

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂

3CF3-C6H4 2C1-C6H4 $R^1=NO_2$, $R^2=C$ (CN)=N-OH \mathbb{R}^3 (CH₂)₃CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =C1, R^2 =CH₂CN \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2

CH2NHCH2CH (CH3) 2

OCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

NHCH2CH (CH3) 2

 $R^{1}=Br$, $R^{2}=CH_{2}CN$ R3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl CH2O (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=CH_2CN$ В3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3).2... CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =OCH₃, R^2 =CH₂CN \mathbb{R}^3 (CH₂) 3CH₃

CH2CH (CH3) 2

CH2CH2CH(CH3)2

C₆H₅

CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃) 2
CH₂NHCH₂CH(CH₃) 2
OCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₃, R²=CH₂CN

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₂H, R²=CH₂CN R³ (CH₂)₃CH₃ CH₂CH(CH₃)₂ CH₂CH₂CH(CH₃)₂ CH₂-cyclopentyl CH₂O(C₆H₅) CH₂SCH₂CH(CH₃)₂ CH₂NHCH₂CH(CH₃)₂

OCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=NO_2$, $R^2=CH_2CN$ B³ (CH₂) 3CH₃ CH2CH(CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=C1$, $R^2=CH_2C(0)NH_2$ R3 СH₂СН (СH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl CH2O(C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH(CH3)2 OCH2CH (CH3)2 NHCH2CH (CH3) 2

 $R^1=Br$, $R^2=CH_2C(0)NH_2$ \mathbb{R}^3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20(C6H5) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3)2 OCH₂CH (CH₃) 2 NHCH2CH (CH3)2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=CH_2C(0)NH_2$ R3 (CH₂) 3CH₃ сн₂сн (сн₃) ₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1 = OCH_3$, $R^2 = CH_2C(0)NH_2$ (CH₂) 3CH₃ СH₂CH (СH₃) 2 сн₂сн₂сн (сн₃) 2

CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃) 2
CH₂NHCH₂CH(CH₃) 2
OCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₃, R²=CH₂C(O)NH₂

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃+C₆H₄

 R^{1} =OCF₂H, R^{2} =CH₂C(O)NH₂ R^{3} (CH₂)₃CH₃ CH₂CH(CH₃)₂ CH₂CH₂CH(CH₃)₂ CH₂-cyclopentyl CH₂O(C₆H₅) CH₂SCH₂CH(CH₃)₂

CH2NHCH2CH (CH3) 2

осн₂сн (сн₃) ₂ NHCH2CH (CH3)2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=NO_2$, $R^2=CH_2C(O)NH_2$ R³ (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) СH₂SCH₂CH (СH₃) 2 CH2NHCH2CH (CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=C1$,

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂

C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=Br,

R²=

N

CF₃

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=1,

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂

NHCH₂CH (CH₃)₂ C₆H₅ 3CF₃-C₆H₄ 2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

$$R^{2} = N \qquad CF_{3}$$

B³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂

OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C_6H_5 3CF₃- C_6H_4 2C1- C_6H_4

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂

 ${\rm CH_2NHCH_2CH~(CH_3)_2}$ ${\rm OCH_2CH~(CH_3)_2}$ ${\rm NHCH_2CH~(CH_3)_2}$ ${\rm C_6H_5}$ ${\rm 3CF_3-C_6H_4}$ ${\rm 2C1-C_6H_4}$

$$R^{1}=C1$$
,
 CH_{3}

E³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)

 ${\rm CH_2SCH_2CH\,(CH_3)\,2}$ ${\rm CH_2NHCH_2CH\,(CH_3)\,2}$ ${\rm OCH_2CH\,(CH_3)\,2}$ ${\rm NHCH_2CH\,(CH_3)\,2}$ ${\rm C_6H_5}$ ${\rm 3CF_3-C_6H_4}$ ${\rm 2C1-C_6H_4}$

$$R^{1}=I$$
,
 CH_{3}

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

$$R^{1}=OCH_{3}$$
, CH_{3}

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl

 ${
m CH_{2}O\,(C_{6}H_{5})}$ ${
m CH_{2}SCH_{2}CH\,(CH_{3})\,2}$ ${
m CH_{2}NHCH_{2}CH\,(CH_{3})\,2}$ ${
m OCH_{2}CH\,(CH_{3})\,2}$ ${
m NHCH_{2}CH\,(CH_{3})\,2}$ ${
m C_{6}H_{5}}$ ${
m 3CF_{3}-C_{6}H_{4}}$ ${
m 2C1-C_{6}H_{4}}$

$$R^1 = OCF_3$$
,
 $R^2 = N$
 CH_3

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³ (CH₂) ₃CH₃ CH₂CH (CH₃) ₂ CH₂CH₂CH (CH₃) ₂ CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃) 2
CH₂NHCH₂CH(CH₃) 2
OCH₂CH(CH₃) 2
NHCH₂CH(CH₃) 2
C₆H₅
3CF₃-C₆H₄
2Cl-C₆H₄

$$R^{1}=NO_{2}$$
,
 CH_{3}

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

$$R^{1}$$
=C1, R^{2} =CH $_{2}$ C1
 R^{3}
(CH $_{2}$) $_{3}$ CH $_{3}$
CH $_{2}$ CH (CH $_{3}$) $_{2}$
CH $_{2}$ CH $_{2}$ CH (CH $_{3}$) $_{2}$
CH $_{2}$ -cyclopenty1
CH $_{2}$ O (C $_{6}$ H $_{5}$)

 ${\rm CH_2SCH_2CH~(CH_3)~2}$ ${\rm CH_2NHCH_2CH~(CH_3)~2}$ ${\rm OCH_2CH~(CH_3)~2}$ ${\rm NHCH_2CH~(CH_3)~2}$ ${\rm C_6H_5}$ ${\rm 3CF_3-C_6H_4}$ ${\rm 2C1-C_6H_4}$

R¹=Br, R²=CH₂Cl R³ (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH₂CH₂CH (CH₃)₂ CH₂-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃)₂ CH₂NHCH₂CH (CH₃)₂ OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C₆H₅ 3CF₃-C₆H₄ 2Cl-C₆H₄

R¹=I, R²=CH₂Cl R³ (CH₂)₃CH₃ CH₂CH(CH₃)₂ CH₂CH₂CH(CH₃)₂ CH₂-cyclopentyl CH₂O(C₆H₅) CH₂SCH₂CH(CH₃)₂ CH₂NHCH₂CH(CH₃)₂ OCH₂CH(CH₃)₂ NHCH₂CH(CH₃)₂ C₆H₅

3CF3-C6H4 2C1-C6H4 $R^1=OCH_3$, $R^2=CH_2C1$ R3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl $CH_2O(C_6H_5)$ CH2SCH2CH (CH3) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =OCF₃, R^2 =CH₂C1 R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅

3CF₃-C₆H₄

2C1-C6H4

 R^1 =OCF₂H, R^2 =CH₂Cl R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=NO_2$, $R^2=CH_2C1$ \mathbb{R}^3 (CH₂)₃CH₃ СH₂СH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH(CH₃)₂
CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
CG^H₅

3CF3-C6H4

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂

OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C_6H_5 3CF₃- C_6H_4 2C1- C_6H_4

B³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

$$R^{1}=C1$$
, N —NH
 $R^{2}=$

E³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂

 ${\rm CH_2NHCH_2CH\,(CH_3)_2}$ ${\rm OCH_2CH\,(CH_3)_2}$ ${\rm NHCH_2CH\,(CH_3)_2}$ ${\rm C_6H_5}$ ${\rm 3CF_3-C_6H_4}$ ${\rm 2C1-C_6H_4}$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)

 ${\rm CH_2SCH_2CH\,(CH_3)\,2}$ ${\rm CH_2NHCH_2CH\,(CH_3)\,2}$ ${\rm OCH_2CH\,(CH_3)\,2}$ ${\rm NHCH_2CH\,(CH_3)\,2}$ ${\rm C_6H_5}$ ${\rm 3CF_3-C_6H_4}$ ${\rm 2C1-C_6H_4}$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C6H₅
3CF₃-C₆H₄
2Cl-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl

 ${\rm CH_2O\,(C_6H_5)}$ ${\rm CH_2SCH_2CH\,(CH_3)\,2}$ ${\rm CH_2NHCH_2CH\,(CH_3)\,2}$ ${\rm OCH_2CH\,(CH_3)\,2}$ ${\rm NHCH_2CH\,(CH_3)\,2}$ ${\rm C_6H_5}$ ${\rm 3CF_3-C_6H_4}$ ${\rm 2Cl-C_6H_4}$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂

CH2-cyclopentyl CH₂O (C₆H_{5.}) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=C1$, $R^2=CH_2OH$ RЗ (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH2O(C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=Br$, $R^2=CH_2OH$ _R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ СH₂CH₂CH (СH₃)₂ CH2-cyclopentyl сн₂о (с₆н₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂

NHCH₂CH (CH₃)₂ C6H5 3CF3~C6H4 2C1-C6H4 $R^1=I$, $R^2=CH_2OH$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =OCH₃, R^2 =CH₂OH R3 (CH₂.),3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

AND THE PARTY

 $R^1 = OCF_3$, $R^2 = CH_2OH$ \mathbb{R}^3 (CH₂)₃CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH₂NHCH₂CH (CH₃)₂ OCH2CH (CH3)2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 $R^1 = OCF_2H$, $R^2 = CH_2OH$ \mathbb{R}^3 (CH₂) 3CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 $R^1 = NO_2$, $R^2 = CH_2OH$ ${f R}^{f 3}$ (CH₂) 3CH₃ СH₂CH (СH₃)₂ сн₂сн₂сн (сн₃) 2

CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^{1}=C1,$ $\mathbb{R}^{2_{\infty}}$ \mathbb{R}^3 (CH₂) 3CH₃ СH₂CH (СH₃)₂ СH₂CH₂CH (СH₃)₂ CH₂-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4

2C1-C6H4

R1=Br, R²-R3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH₂CH₂CH (CH₃)₂ CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

R²-R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2

 $R^{1}=I$,

 $OCH_2CH (CH_3)_2$ $NHCH_2CH (CH_3)_2$ C_6H_5 $3CF_3-C_6H_4$ $2Cl-C_6H_4$

R¹=OCH₃,

R²= 0

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂

NHCH2CH (CH3)2

C₆H₅

3CF3-C6H4

2C1-C6H4

СH₂CH (СH₃) 2 CH₂CH₂CH (CH₃)₂ CH2-cyclopentyl CH20 (C6H5) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH(CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCF2H, $R^2=$ RЗ (CH₂) 3CH₃ СH₂СH (СH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4

2C1-C6H4

 $R^1=NO_2$, R^2 RЭ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=C1$, $R^2 =$ CO RЗ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl сн₂0 (С₆н₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2

NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

(CH₂)₃CH₃ CH₂CH (CH₃)₂ CH₂CH₂CH (CH₃)₂ CH₂-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃)₂ CH₂NHCH₂CH (CH₃)₂

OCH2CH (CH3) 2

CH2SCH2CH(CH3)2

CH2NHCH2CH (CH3)2

OCH2CH (CH3) 2

NHCH₂CH (CH₃)₂ C_6H_5 $3CF_3-C_6H_4$ $2C1-C_6H_4$

R¹-Br, R²=CH₂-O-C-CH₃

R³
(CH₂) 3CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C6H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=I, R²=CH₂-O-C-CH R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂

3CF3-C6H4 2C1-C6H4 R^1 =OCH₃, $R^2 = CH_2 - O - C - CH_3$ \mathbb{R}^3 (CH₂)₃CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl ' CH20 (C6H5) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCF3, R2=CH2-O-C-CH3 R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3) 2 CH2-cyclopentyl

СH₂O (С₆H₅)

CH2SCH2CH (CH3) 2

CH2NHCH2CH (CH3) 2

OCH₂CH (CH₃)₂

NHCH₂CH (CH₃)₂

C₆H₅

3CF3-C6H4 2C1-C6H4 R1=OCF₂H, R²=CH₂-C-OCH₃ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=NO_2$, $R^2=CH_2-O-C-CH_3$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

C₆H₅

3CF3-C6H4 2C1-C6H4

 $R^1=Br$, $R^2=C-OCH_3$ R3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH2O(C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4

 $R^1=I$, $R^2=C-OCH_3$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^{1} =OCH₃, R^{2} = \ddot{C} -OCH₃ R³ (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅

3CF3-C6H4

2C1-C6H4

R³ (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = OCF_2H$, $R^2 = C - OCH_3$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH₂O (C₆H₅) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C6H5 3CF3-C6H4 2C1-C6H4

R¹=NO₂, R²=C-OCH₃

R³
(CH₂)₃CH₃
CH₂CH₂CH₂CH₂CH₃)₂
CH₂-cyclopentyl
CH₂O₄(C₆H₅)
CH₂SCH₂CH₂CH₃(CH₃)₂
CH₂NHCH₂CH₃(CH₃)₂
OCH₂CH₃(CH₃)₂
NHCH₂CH₃(CH₃)₂
C6H₅

3CF3-C6H4

2C1-C6H4

3CF3-C6H4

2C1-C6H4

R¹=C1, R²=C-NHCH₃

B³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅

88 R1=Br, R2=C-NHCH3 R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = I$. R2=C-NHCH3 R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl CH₂O (C₆H₅)

CH2SCH2CH (CH3) 2

CH2NHCH2CH(CH3)2

OCH₂CH (CH₃)₂

NHCH2CH (CH3) 2

3CF3-C6H4

2C1-C6H4

C₆H₅

 R^1 =OCH₃, R^2 =C-NHCH₃ (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =OCF₃, R^2 =C-NHCH₃ _B3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O(C₆H₅) СН₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R¹=OCF₂H, R²=C-NHO
R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=NO₂, R²=C-NHO

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

 \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH₂O (C₆H₅)

CH2SCH2CH (CH3) 2

CH2NHCH2CH (CH3)2

OCH₂CH (CH₃)₂

NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

R3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH (CH3) 2 CH2-cyclopentyl СH₂O (С_бH₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C6H5 3CF3-C6H4 2C1-C6H4 \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH₂CH₂CH (CH₃)₂ CH2-cyclopentyl CH2O(C6H5) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

E³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
CGH₅
3CF₃-C₆H₄
2C1-C₆H₄

CH2CH2CH(CH3)2

CH2-cyclopentyl

CH2SCH2CH(CH3)2

OCH₂CH (CH₃)₂

NHCH2CH (CH3) 2

C6H5

CH2NHCH2CH(CH3)2

СH₂O (С₆H₅)

3CF3-C6H4

 $\begin{array}{l} \text{CH}_2\text{SCH}_2\text{CH} \left(\text{CH}_3\right) 2 \\ \text{CH}_2\text{NHCH}_2\text{CH} \left(\text{CH}_3\right) 2 \\ \text{OCH}_2\text{CH} \left(\text{CH}_3\right) 2 \\ \text{NHCH}_2\text{CH} \left(\text{CH}_3\right) 2 \\ \text{C}_6\text{H}_5 \\ \text{3CF}_3\text{-C}_6\text{H}_4 \\ \text{2Cl}\text{-C}_6\text{H}_4 \end{array}$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³ (CH₂) 3^{CH}3 CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄
R¹=OCF₂H,

CN (CH₃)
R²=CH=C
COCH₃
O
R³
(CH₂)₃CH₃

CH₂)₃CH₃

CH₂CH (CH₃)₂

CH₂CH₂CH (CH₃)₂

CH₂-cyclopentyl

CH₂O (C₆H₅)

CH₂SCH₂CH (CH₃)₂

CH₂NHCH₂CH (CH₃)₂

OCH₂CH (CH₃)₂

NHCH₂CH (CH₃)₂

C₆H₅

3CF₃-C₆H₄

2C1-C₆H₄

R¹=NO₂,

O
II
CN (CH₃)₂

R²=CH=C

COCH₃
II

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=C1, R²=CH=C COCH₃

(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅

R3 $(CH_2)_3CH_3$ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3)2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH (CH3) 2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2

CH2-cyclopentyl

CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
R³
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=Br, R²=CH=CHC- N R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl CH20 (C6H5) СH₂SCH₂CH (СH₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 R²=CH=CHC- N R3 (CH₂) 3CH₃ СH₂CH (СH₃) ₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2

NHCH2CH (CH3)2

C6H5

3CF3-C6H4

2C1-C6H4

R¹=OCH₃, R²=CH=CHC- N \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH₂-cyclopentyl $CH_2O(C_6H_5)$ CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH₂CH (CH₃)₂ C6H5 3CF3-C6H4 2C1-C6H4 R²=CH=CHC-N R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅

3CF3-C6H4

2C1-C6H4

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅

3CF3-C6H4 2C1-C6H4 R1=C1, R2=CH=CHCOCH3 R3 (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1-Br, R2-CH-CHCOCH3 (CH₂) 3CH₃ CH2CH (CH3) 2 СH₂CH₂CH (СH₃)₂ CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅

3CF3-C6H4

2C1-C6H4

 $R^1 = I$, $R^2 = CH = CHCOCH_3$ R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCH3, R2=CH=CHCOCH3 \mathbb{R}^3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ СH₂CH₂CH (СH₃)₂ CH2-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH₂CH (CH₃)₂ C6H5 3CF3-C6H4 2C1-C6H4

```
R<sup>1</sup>=OCF<sub>3</sub>,
         R<sup>2</sup>=CH=CHCOCH<sub>3</sub>
 R<sup>3</sup>
 (CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>
 CH2CH (CH3) 2
 CH2CH2CH(CH3)2
 CH2-cyclopentyl
CH20 (C6H5)
CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3)2
OCH2CH (CH3) 2
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
         R1=OCF2H,
        R<sup>2</sup>=CH=CHCOCH<sub>3</sub>
R3
(CH<sub>2</sub>) 3CH<sub>3</sub>
CH2CH (CH3) 2
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH2O (C6H5)
CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3) 2
OCH2CH (CH3) 2
NHCH2CH (CH3) 2
```

```
R^1 = NO_2, R^2 = CH = CHCOCH_3
 R3
  (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH2CH (CH3) 2
 CH2CH2CH(CH3)2
 CH2-cyclopentyl
 CH20 (C6H5)
 CH2SCH2CH(CH3)2
 CH2NHCH2CH(CH3)2
 OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
 NHCH2CH (CH3) 2
 C<sub>6</sub>H<sub>5</sub>
 3CF3-C6H4
 2C1-C6H4
      R^1=C1, R^2=CH=CH_2
R<sup>3</sup>
 (CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>
CH2CH (CH3)2
CH2CH2CH(CH3)2
CH2-cyclopentyl
 CH<sub>2</sub>O(C<sub>6</sub>H<sub>5</sub>)
CH2SCH2CH(CH3)2
CH2NHCH2CH (CH3) 2
OCH2CH (CH3) 2
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
     R1=Br, R2=CH=CH2
RЗ
(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>
CH2CH (CH3) 2
```

```
CH2CH2CH(CH3)2
  CH2-cyclopentyl
  CH2O(C6H5)
  СH<sub>2</sub>SCH<sub>2</sub>CH (СН<sub>3</sub>) 2
  CH2NHCH2CH (CH3)2
 осн<sub>2</sub>сн (сн<sub>3</sub>) <sub>2</sub>
 NHCH2CH (CH3) 2
 C<sub>6</sub>H<sub>5</sub>
 3CF3-C6H4
 2C1-C6H4
        R^1=I, R^2=CH=CH_2
R3
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH2CH (CH3) 2
 CH2CH2CH(CH3)2
 CH2-cyclopentyl
 CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
 CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3) 2
OCH2CH (CH3) 2
NHCH<sub>2</sub>CH (CH<sub>3</sub>) <sub>2</sub>
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
    R^1=OCH<sub>3</sub>, R^2=CH=CH<sub>2</sub>
 (CH<sub>2</sub>) 3CH<sub>3</sub>
CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH20 (C6H5)
CH2SCH2CH(CH3)2
CH2NHCH2CH (CH3) 2
```

C₆H₅

3CF3-C6H4

OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₃, R²=CH=CH₂

R³
(CH₂)₃CH₃
CH₂CH₂(CH₃)₂
CH₂CH₂CH₂(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R¹=NO₂, R²=CH=CH₂
R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

 R^1 =C1, R^2 =CH=C CNH₂ 0

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=Br, R²=CH=C

CH₂)₃CH₃

CH₂CH (CH₃)₂

CH₂CH₂CH (CH₃)₂

CH₂-cyclopentyl

CH₂O (C₆H₅)

CH₂SCH₂CH (CH₃)₂

CH₂NHCH₂CH (CH₃)₂

OCH₂CH (CH₃)₂

NHCH₂CH (CH₃)₂

SCF₃-C₆H₄

2C1-C₆H₄

 $R^1 = I$, $R^2 \approx CH \approx C$ $\begin{array}{c} CNH_2 \\ || \\ O\end{array}$

R³
(CH₂)₃CH₃...
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2Cl-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

$$R^1 = NO_2$$
, $R^2 = CH = C$

$$CNH_2$$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

$$R^1=I$$
, $R^2=CH=C$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

```
R^1=OCH<sub>3</sub>,
       R<sup>2</sup>=C-NH-OCH<sub>2</sub>CH=CH<sub>2</sub>
 \mathbb{R}^3
  (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH2CH (CH3) 2
 CH2CH2CH(CH3)2
 CH<sub>2</sub>-cyclopentyl
 CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
 CH2SCH2CH(CH3)2
 CH2NHCH2CH(CH3)2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
 C6H5
 3CF3-C6H4
 2C1-C6H4
     R1=OCF3,
     R<sup>2</sup>=C-NH-OCH<sub>2</sub>CH=CH<sub>2</sub>
R3
 (CH<sub>2</sub>).3CH<sub>3</sub>.
CH2CH (CH3) 2
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
CH2SCH2CH (CH3) 2
CH_2NHCH_2CH(CH_3)_2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
```

```
R1=OCF2H,
      R<sup>2</sup>="-NH-OCH<sub>2</sub>CH=CH<sub>2</sub>
 \mathbb{R}^3
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH2CH (CH3)2
 CH2CH2CH(CH3)2
 CH2-cyclopentyl
 CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
 CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3) 2
осн<sub>2</sub>сн (сн<sub>3</sub>) <sub>2</sub>
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
     R^1 = NO_2
     R^2=\ddot{C}-NH-OCH_2CH=CH_2
<sub>R</sub>3
(CH<sub>2</sub>) 3CH<sub>3 ...</sub>
CH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH20 (C6H5)
CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3) 2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
```

3CF3-C6H4

R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl $CH_{2}O(C_{6}H_{5})$ CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

R¹=Br, R²=CNH-OCH₃ R3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) ₂

NHCH2CH (CH3) 2

3CF3-C6H4

2C1-C6H4

C₆H₅

R²=CNH-OCH₂ R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl сн₂о (с₆н₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCH3, R2=CNH-OCH3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2

100

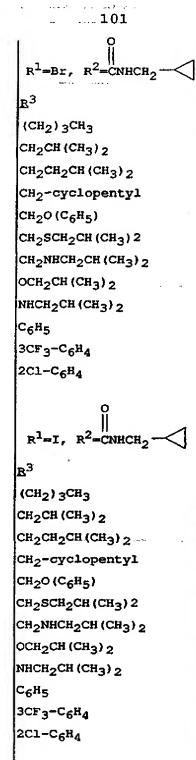
R3 CH2-cyclopentyl~ CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3).2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

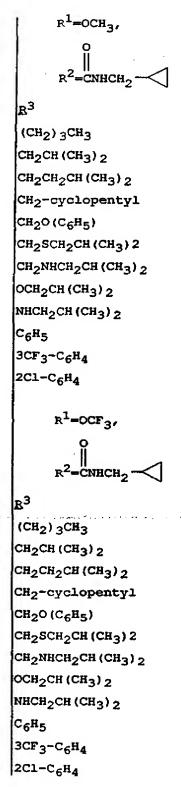
R¹=OCF₃, R²=CNH-OCH₃ R3 (CH₂) 3CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R1=OCF2H, R2=CNH-OCH3 R3 (CH₂) 3CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R¹=C1, R²=CNHCH₂

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄





R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹= NO₂, R²-CNHCH₂

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=1, R²=C-NH
R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C6H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCH₃, R²=C-NH

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

$$R^1$$
=OCF₃, R^2 =C-NH

E³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopenty1
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

103 R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O(C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=C1$, $R^2=CN(CH_3)_2$ R³ (CH₂) 3CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

 $R^1=Br$, $R^2=CN(CH_3)_2$ R3 (CH₂) 3CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=I$, $R^2=CN(CH_3)_2$ \mathbb{R}^3 (CH₂) 3CH₃ СH₂CH (СH₃) 2 CH₂CH₂CH (CH₃)₂ CH2-cyclopentyl СH₂O (С₆H₅) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

3CF3-C6H4

2C1-C6H4

```
RЗ
 (CH<sub>2</sub>) 3CH<sub>3</sub>
 CH2CH (CH3) 2
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH2O (C6H5)
CH2SCH2CH (CH3) 2
CH2NHCH2CH (CH3) 2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
3CF3-C6H4
2C1-C6H4
     R^1=Br, R^2=C-NHCH<sub>3</sub>
R3
(CH<sub>2</sub>) 3CH<sub>3</sub>
CH2CH (CH3) 2
CH2CH2CH(CH3)2
CH2-cyclopentyl
CH<sub>2</sub>O (C<sub>6</sub>H<sub>5</sub>)
CH2SCH2CH(CH3)2
CH2NHCH2CH (CH3) 2
OCH<sub>2</sub>CH (CH<sub>3</sub>)<sub>2</sub>
NHCH2CH (CH3) 2
C<sub>6</sub>H<sub>5</sub>
```

3CF3-C6H4

 R^1 =OCH₃, R^2 =C-NHCH₃ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3)2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O(C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3)2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R1=OCF2H, R2=C-NHCH3 R³. (CH₂) 3CH₃ СH₂CH (СH₃) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4

2C1-C6H4

 $R^1 = NO_2$, $R^2 = C - NHCH_3$ \mathbb{R}^3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

$$R^{1}=I$$
,

 CF_{3}
 $R^{2}=C-NH$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄

$$R^1$$
=OCH₃,
 CF_3
 R^2 =C-NH

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₃,
CF

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄

2C1-C₆H₄

$$R^{1}=OCF_{2}H,$$

$$O$$

$$R^{2}=C-NH$$

$$CF_{3}$$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅

$$R^1=C1$$
, $R^2=C-NH$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

$$R^{1}$$
=Br, R^{2} =C-NH- $\langle \bigcirc \rangle$

B³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

2C1-C6H4

OCH2CH (CH3) 2

NHCH2CH (CH3) 2

C6H5

3CF3-C6H4

2C1-C6H4

$$R^1 = NO_2$$
, $R^2 = C - NH - \bigcirc$

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
CH₆H₅
3CF₃-C₆H₄

2C1-C6H4

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

C6H5

3CF3-C6H4

2C1-C6H4

OCH₂COH (CH₃)₂

TABLE 2

 R^{1} =C1, R^{2} =CN R^{3} (CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂

C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=Br, R²=CN

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)

CH₂SCH₂CH (CH₃) 2
CH₂NHCH₂CH (CH₃) 2
OCH₂CH (CH₃) 2
NHCH₂CH (CH₃) 2
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄
R¹=OCF₃, R²=CN
R³
(CH₂) 3CH₃

CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₂H, R²=CN

R³
(CH₂) 3CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃=C₆H₄
2C1-C₆H₄

 $R^{1}=NO_{2}$, $R^{2}=CN$ R^{3} $(CH_{2})_{3}CH_{3}$ $CH_{2}CH_{3}(CH_{3})_{2}$ $CH_{2}CH_{2}CH_{3}(CH_{3})_{2}$ $CH_{2}-cyclopentyl$ $CH_{2}O_{3}(C_{6}H_{5})$ $CH_{2}SCH_{2}CH_{3}C$

CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH(CH3)2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =C1, R^2 =CNH₂ R3 (CH₂)₃CH₃ CH2CH (CH3) 2 СH₂CH₂CH (СH₃)₂ CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1=Br$, $R^2=CNH_2$ R3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅)

CH2SCH2CH(CH3)2

3CF3-C6H4

2C1-C6H4

CH₂NHCH₂CH (CH₃) ₂B³

 $R^1 = OCF_3$, $R^2 = CNH_2$ R3 (CH₂) 3CH₃ СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 = OCF₂H, R^2 =CNH₂ R³ (CH₂) 3CH₃ CH2CH (CH3) 2 СН₂СН₂СН (СН₃) ₂- . CH₂-cyclopentyl CH₂O(C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 $R^{1} = NO_{2}, R^{2} = CNH_{2}$ R^{3} (CH₂) 3CH₃

(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅

3CF3-C6H4

2C1-C6H4

R¹=C1, R²=C≡CH

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=Br, R²=C≅CH R³ (CH₂)₃CH₃ CH₂CH(CH₃)₂ $CH_2CH_2CH (CH_3)_2$ CH_2 -cyclopentyl $CH_2O (C_6H_5)$ $CH_2SCH_2CH (CH_3)_2$ $CH_2NHCH_2CH (CH_3)_2$ $OCH_2CH (CH_3)_2$ $NHCH_2CH (CH_3)_2$ C_6H_5 $3CF_3$ - C_6H_4 2C1- C_6H_4 R^1 = OCF_3 , R^2 =C=CH

CH₂O(C₆H₅)

CH₂CH(CH₃)

CH₂CH(CH₃)

CH₂CH₂CH(CH₃)

CH₂CH₂CH(CH₃)

CH₂CH₂CH(CH₃)

CH₂NHCH₂CH (CH₃)₂
CCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅

3CF₃-C₆H₄ 2C1-C₆H₄

 $R^1 = OCF_2H$, $R^2 = C^2CH$

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂

 $OCH_2CH (CH_3)_2$ $NHCH_2CH (CH_3)_2$ C_6H_5 $3CF_3-C_6H_4$ $2C1-C_6H_4$

R¹= NO₂, R²=C=CH

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂

C₆H₅

3CF3-C6H4

2C1-C6H4

R¹=Cl, R²=COH

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂

CH₂CH (CH₃)₂ NHCH₂CH (CH₃)₂ C₆H₅ 3CF₃-C₆H₄

2C1-C6H4

R1=Br, R2=COH

 \mathbb{R}^3 (CH₂)₃CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4

 $R^1 = OCF_3$, $R^2 = COH$

r3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 $R^1 = OCF_2H$, $R^2 = COH$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 $R^1 = NO_2$, $R^2 = COH$ (CH₂) 3CH₃

CH2CH (CH3) 2 сн₂сн₂сн (сн₃) ₂ CH₂-cyclopentyl

R³

CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2

C₆H₅ 3CF3-C6H4 2C1-C6H4

 R^1 =Cl, R^2 =COCH₂ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R1-Br, R2-COCH3 R3 (CH₂) 3CH₃

CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl СH₂O (С₆H₅)

CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH(CH3)2 OCH₂CH (CH₃)₂

NHCH2CH (CH3) 2 C6H5

3CF3~C6H4 2C1-C6H4

R¹= OCF₃, R²=COCH₃

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

R¹=OCF₂H, R²=COCH₃

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C6H₅
3CF₃-C₆H₄
2C1-C₆H₄

 $R^1 = NO_2$, $R^2 = COCH_3$ R3 (CH₂)₃CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 RЗ (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH₂-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2

C6H5

R3

3CF3-C6H4

(CH₂) 3CH₃

2C1-C6H4

CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl сн₂0 (С₆н₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3)2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^{1} = OCF_{3}, R^{2} = CH$ R³ (CH₂)₃CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3)2 OCH₂CH (CH₃)₂. NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = OCF_2H$, $R^2 =$ \mathbb{R}^3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl

 ${\rm CH_{2}O\,(C_{6}H_{5})}$ ${\rm CH_{2}SCH_{2}CH\,(CH_{3})\,2}$ ${\rm CH_{2}NHCH_{2}CH\,(CH_{3})\,2}$ ${\rm OCH_{2}CH\,(CH_{3})\,2}$ ${\rm NHCH_{2}CH\,(CH_{3})\,2}$ ${\rm C_{6}H_{5}}$ ${\rm 3CF_{3}-C_{6}H_{4}}$ ${\rm 2Cl-C_{6}H_{4}}$

R¹= NO₂, R²=CH

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂
C₆H₅
3CF₃-C₆H₄

R¹=Cl, R²=COCH

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂

CH2NHCH2CH (CH3) 2

2C1-C6H4

OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R¹=Br, R²=COCH₃ ВЗ (CH2) 3CH3 CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) СH₂SCH₂CH (СН₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3)2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅

3CF3-C6H4 2C1-C6H4 $R^1 = OCF_2H$, $R^2 = COCH_3$ R3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O(C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH(CH3)2 OCH2CH(CH3)2 NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 $R^1 = NO_2$, $R^2 = COCH_3$ R3 (CH2) 3CH3... СH₂CH (СH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH(CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

 $R^1=C1$, $R^2=CH_2OH$ \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3)2 C₆H₅ 3CF3-C6H4 2C1-C6H4

R1=Br, R2=CH2OH R³ (CH₂) 3CH₃ CH2CH(CH3)2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH2SCH2CH (CH3) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4

 $R^1 = OCF_3$, $R^2 = CH_2OH$ R³ (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2

... 115 CH2-cyclopentyl CH₂O (C₆H₅) СH₂SCH₂CH (СH₃) 2 CH2NHCH2CH (CH3) 2 OCH₂CH (CH₃)₂ NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =OCF₂H, R^2 =CH₂OH R3 (CH₂)₃CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3)2 осн₂сн (сн₃) ₂ NHCH2CH (CH3) 2 C6H5 3CF3-C6H4 2C1-C6H4 $R^1=NO_2$, $R^2=CH_2OH$

R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O (C₆H₅) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2

NHCH2CH (CH3) 2 C₆H₅ 3CF3-C6H4 2C1-C6H4 R^1 =C1, R^2 =CNHCH₃ R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH₂SCH₂CH (CH₃) 2 CH2NHCH2CH (CH3)2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C_6H_5 3CF3-C6H4 2C1-C6H4 R1=Br, R2=CNHCH3 \mathbb{R}^3 (CH₂) 3CH₃ CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH20 (C6H5) CH2SCH2CH(CH3)2 сн₂мнсн₂сн (сн₃) ₂ OCH₂CH (CH₃)₂ NHCH2CH(CH3)2 C6H5 3CF3-C6H4

C6H5

3CF3-C6H4

2C1-C6H4

2C1-C₆H₄

O
R¹= OCF₃, R²=CNHCH₃

R³
(CH₂)₃CH₃
CH₂CH(CH₃)₂
CH₂CH₂CH(CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH(CH₃)₂
CH₂NHCH₂CH(CH₃)₂
OCH₂CH(CH₃)₂
NHCH₂CH(CH₃)₂

R¹= OCF₂H, R²=CNHCH₃

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O (C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
OCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
SCF₃-C₆H₄
2C1-C₆H₄

116 (CH2) 3CH3 CH2CH (CH3) 2 CH2CH2CH(CH3)2 CH2-cyclopentyl CH2O (C6H5) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2 OCH2CH (CH3) 2 NHCH2CH (CH3) 2 C6H5 \mathbb{R}^3 3CF3-C6H4 2C1-C6H4 R3 (CH₂) 3CH₃ CH₂CH (CH₃)₂ CH2CH2CH(CH3)2 CH2-cyclopentyl CH₂O(C₆H₅) CH2SCH2CH(CH3)2 CH2NHCH2CH (CH3) 2

OCH₂CH (CH₃)₂

NHCH2CH (CH3) 2

C₆H₅

3CF3-C6H4

2C1-C6H4

CN
R²=C=C
CNH₂
|||
CNH₂
|||
CNH₂
|||
CH₂|||
CH₂|||
CH₂CH (CH₃)||
CH₂CH₂CH (CH₃)||
CH₂CH₂CH (CH₃)||
CH₂SCH₂CH (CH₃)||
CH₂NHCH₂CH (CH₃)||
NHCH₂CH (CH₃)||
CG₆H₅
CG₆H₅
CG₆H₅
CCN
R²=C=C
CNH₂
||
R³

R³
(CH₂)₃CH₃
CH₂CH (CH₃)₂
CH₂CH₂CH (CH₃)₂
CH₂-cyclopentyl
CH₂O(C₆H₅)
CH₂SCH₂CH (CH₃)₂
CH₂NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
NHCH₂CH (CH₃)₂
C₆H₅
3CF₃-C₆H₄
2C1-C₆H₄

Formulation

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Compositions of this invention comprising the active compounds of Formula I or II will generally be used in formulation with an agriculturally suitable carrier comprising a liquid or solid diluent or an organic solvent. Useful formulations may be in the form that includes dusts, granules, pellets, solutions, suspensions, emulsions, wettable powders, emulsifiable concentrates, dry flowables and the like, consistent with the physical properties of the active ingredient, mode of application and environmental factors such as soil type, moisture and temperature. Sprayable formulations can be extended in suitable media and used at spray volumes from about one to several hundred

liters per hectare. High strength compositions are primarily used as intermediates for further formulation. The formulations will typically contain effective amounts of active ingredient, diluent and surfactant within the following approximate ranges which add up 100 weight percent.

	We	ight Perce	ent
	Active Ingredient	Diluent	Surfactant
Wettable Powders	25-90	0-74	1-10
Oil Suspensions, Emulsions, Solutions, (including Emulsifiable Concentrates)	5-50	40-95	0-15
Dusts	1-25	70-99	0-5
Granules and Pellets	0.01-99	5-99.99	0-15
High Strength Compositions	90-99	0-10	0-2

et al., Handbook of Insecticide Dust Diluents and
Carriers, 2nd Ed., Dorland Books, Caldwell, New Jersey.
Typical liquid diluents and solvents are described in
Marsden, Solvents Guide, 2nd Ed., Interscience, New
York, 1950. McCutcheon's Detergents and Emulsifiers

Annual, Allured Publ. Corp., Ridgewood, New Jersey, as
well as Sisely and Wood, Encyclopedia of Surface Active
Agents, Chemical Publ. Co., Inc., New York, 1964, list
surfactants and recommended uses. All formulations can
contain minor amounts of additives to reduce foam,
caking, corrosion, microbiological growth, etc.

Solutions are prepared by simply mixing the ingredients. Fine solid compositions are made by blending and, usually, grinding as in a hammer mill or fluid energy mill. Water-dispersible granules can be produced be agglomerating a fine powder composition; see for example, Cross et al., Pesticide Formulations,

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Washington, D.C., 1988, pp 251-259. Suspensions are prepared by wet-milling; see, for example, U.S. 3,060,084. Granules and pellets can be made by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", Chemical Engineering, December 4, 1967, pp 147-48, Perry's Chemical Engineer's Handbook, 4th Ed., McGraw-Hill, New York, 1963, pages 8-57 and following, and WO 91/13546. Pellets can be prepared as described in U.S. 4,172,714. Water-dispersible and water-soluble granules can also be prepared as taught in DE 3,246,493.

For further information regarding the art of formulation, see U.S. 3,235,361, Col. 6, line 16

15 through Col. 7, line 19 and Examples 10-41; U.S. 3,309,192, Col. 5, line 43 through Col. 7, line 62 and Examples 8, 12, 15, 39, 41, 52, 53, 58, 132, 138-140, 162-164, 166, 167 and 169-182; U.S. 2,891,855, Col. 3, line 66 through Col. 5, line 17 and Examples 1-4;

20 Klingman, Weed Control as a Science, John Wiley and Sons, Inc., New York, 1961, pp 81-96; and Hance et al., Weed Control Handbook, 8th Ed., Blackwell Scientific Publications, Oxford, 1989.

In the following Examples, all percentages are by
25 weight and all formulations are worked up in
conventional ways. Compound numbers refer to compounds
in Index Table A.

EXAMPLE A

High Strength Concentrate

30	Compound 1	98.5%
	silica aerogel	0.5%
	synthetic amorphous fine silica	1.0%
	EXAMPLE B	

Wettable Powder

35 Compound 1 65.0%

-	dodecylphenol polyethylene glycol ether	2.0%
	sodium ligninsulfonate	4.0%
	sodium silicoaluminate	6.0%
	montmorillonite (calcined)	23.0%
5	EXAMPLE C	
	<u>Granule</u>	
	Compound 1	10.0%
	attapulgite granules (low volative	
	matter, 0.71/0.30 mm; U.S.S. No.	
10	25-50 sieves)	90.0%
	EXAMPLE D	
	Extruded Pellet	
	Compound 1	25.0%
	anhydrous sodium sulfate	10.0%
15	crude calcium ligninsulfonate	5.0%
	sodium alkylnaphthalenesulfonate	1.0%
	calcium/magnesium bentonite	59.0%
	Tests results indicate that the compounds	of the
	present invention are highly active preemerge	ent and/or
20	postemergent herbicides and/or plant growth r	_
	Many of them have utility for broad-spectrum	-
	and/or postemergence weed control in areas wh	
a in de dans s	-complete-control-of-all-vegetation-is-desired	
	around fuel storage tanks, industrial storage	
25	parking lots, drive-in theaters, around billh	
	highway and railroad structures. Some of the	_
	are useful for the control of selected grass	
	broadleaf weeds with tolerance to important a	-
20	crops which include but are not limited to ba	•
30	cotton, wheat, corn, soybeans and rice. Thos	
	in the art will appreciate that not all compo	
	equally effective against all weeds. Alterna the subject compounds are useful to modify pl	
		ant
	growth.	

In certain instances, combinations with other herbicides having a similiar spectrum of control but a different mode of action will be particularly advantageous for resistance management.

5 UTILITY

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Test results indicate that compositions of this invention are herbicidally active postemergence and preemergence. The compositions of this invention are particularly useful for the control of barnyardgrass (Echinochloa crus-galli) in crops especially upland and rice (Oryza sativa).

A herbicidal effective amount of the compounds of this invention is determined by a number of factors. These factors include: formulation selected, method of application, amount and type of vegetation present, growing conditions, etc. In general terms, a herbicidally effective amount is a rate from 0.005 to 10 kg/ha with a preferred rate range of 0.01 to 1 kg/ha. One skilled in the art can easily determine effective application rates for desired level of weed control.

The compositions of this invention may include as active compounds the compounds of Formulas I or II alone or in combination with other commercial 25 herbicides, insecticides, or fungicides. list exemplifies some of the herbicides suitable for use in mixtures. A mixture of one or more of the following herbicides with a compound of this invention may be particularly useful for weed control. 30 of other herbicides with which compounds of this invention can be formulated are: acetochlor, acifluorfen, acrolein, 2-propenal, alachlor, ametryn, amidosulfuron, ammonium sulfamate, amitrole, anilofos, asulam, atrazine, barban, benefin, bensulfuron methyl, bensulide, bentazon, benzofluor, benzoylprop, bifenox, 35

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bromacil, bromoxynil, bromoxynil heptanoate, bromoxynil octanoate, butachlor, buthidazole, butralin, butylate, cacodylic acid, 2-chloro-N, N-di-2-propenylacetamide, 2-chloroallyl diethyldithiocarbamate, chloramben, chloribromuron, chloridazon, chlorimuron ethyl,

- 5 chlorbromuron, chloridazon, chlorimuron ethyl, chlormethoxynil, chlornitrofen, chloroxuron, chlorpropham, chlorsulfuron, chlortoluron, cinmethylin, cinosulfuron, clethodim, clomazone, cloproxydim, clopyralid, calcium salt of methylarsonic acid,
- 10 cyanazine, cycloate, cycluron, cyperquat, cyprazine, cyprazole, cypromid, dalapon, dazomet, dimethyl 2,3,5,6-tetrachloro-1,4-benzenedicarboxylate, desmedipham, desmetryn, dicamba, dichlobenil, dichlorprop, diclofop, diethatyl, difenzoquat,
- diflufenican, dimepiperate, dinitramine, dinoseb, diphenamid, dipropetryn, diquat, diuron, 2-methyl-4,6-dinitrophenol, disodium salt of methylarsonic acid, dymron, endothall, S-ethyl dipropylcarbamothicate, esprocarb, ethalfluralin, ethametsulfuron methyl,
- 20 ethofumesate, fenac, fenoxaprop, fenuron, salt of fenuron and trichloroacetic acid, flamprop, fluazifop, fluazifop-P, fluchloralin, flumesulam, flumipropyn, fluometuron, fluorochloridone, fluorodifen, fluoroglycofen, flupoxam, fluridone, fluroxypyr,
- 25 fluzasulfuron, fomesafen, fosamine, glyphosate, haloxyfop, hexaflurate, hexazinone, imazamethabenz, imazapyr, imazaquin, imazamethabenz methyl, imazethapyr, imazosulfuron, ioxynil, isopropalin, isoproturon, isouron, isoxaben, karbutilate, lactofen,
- 10 lenacil, linuron, metobenzuron, metsulfuron methyl,
 methylarsonic acid, monoammonium salt of methylarsonic
 acid, (4-chloro-2-methylphenoxy)acetic acid,
 S,S'-dimethyl-2-(difluoromethyl)-4-(2-methylpropyl)-6 (trifluoromethyl)-3,5-pyridinedicarbothicate, mecoprop,
- 35 mefenacet, mefluidide, methalpropalin, metha-

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benzthiazuron, metham, methazole, methoxuron, metolachlor, metribuzin, 1,2-dihydropyridazine-3,6-dione, molinate, monolinuron, monuron, monuron salt and trichloroacetic acid, monosodium salt of methylarsonic acid, napropamide, naptalam, neburon, nicosulfuron, nitralin, nitrofen, nitrofluorfen, norea, norflurazon, oryzalin, oxadiazon, oxyfluorfen, paraquat, pebulate, pendimethalin, perfluidone, phenmedipham, picloram, 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitroacetophenone oxime-O-acetic acid methyl ester,

nitroacetophenone oxime-O-acetic acid methyl ester, pretilachlor, primisulfuron, procyazine, profluralin, prometon, prometryn, pronamide, propachlor, propanil, propazine, propham, prosulfalin, prynachlor, pyrazolate, pyrazon, pyrazosulfuron ethyl, quinchlorac,

quizalofop ethyl, rimsulfuron, secbumeton, sethoxydim, siduron, simazine, 1-(a,a-dimethylbenzyl)-3-(4-methylphenyl)urea, sulfometuron methyl, trichloroacetic acid, tebuthiuron, terbacil, terbuchlor, terbuthylazine, terbutol, terbutryn, thifensulfuron

20 methyl, thiobencarb, triallate, trialkoxydim, triasulfuron, tribenuron methyl, triclopyr, tridiphane, trifluralin, trimeturon, (2,4-dichlorophenoxy)acetic acid, 4-(2,4-dichlorophenoxy)butanoic acid, vernolate, and xylachlor.

Compositions comprising a combination of a compound of Formula I or II with one or more of the following herbicides may be particularly useful for weed control in rice: bensulfuron methyl, N-[2-(2-methoxyethoxyphenyl sulfonyl]-N'-4,6-dimethoxy-1,3,5-triazin-2-ylurea, N-[[(4,6-dimethoxypyrimidin-2-yl)amino]carbonyl]-1-methyl-4-(2-methyl-2H-tetrazol-5-yl)-1H-pyrazole-5-sulfonamide, mefenacet, metsulfuron methyl, molinate, pyrazosulfuron ethyl, quinclorac, N-[[(4,6-dimethoxy-2-pyrimidinyl)amino]-carbonyl]-3-

methyl-5-(2,2,2-trifluoroethyl)-4-isothiazole-

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sulfonamide, 3-chloro-N-[[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]imidazo-[1,2-a]pyridine-3-sulfonamide, S,S-dimethyl 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-3,5-pyridine-carbothioate, and butachlor.

Selective herbicidal properties of compositions comprising the compounds of Formulas I or II were discovered in greenhouse tests as described below.

INDEX TABLE A

$$\mathbb{R}^3$$

Compounds of Formula II wherein:

	•	2	2	
CMPD	R1	R ²	R ³	mp (°C)
. 1	Cl	CO2CH3	OCH ₂ CH (CH ₃) ₂	oil
2	Cl	со ₂ н	OCH ₂ CH (CH ₃) ₂	82-84
3	Cl	C (O) NH ₂	OCH ₂ CH (CH ₃) ₂	129-30
4	NO_2	C≡N	C ₆ H ₅	117-118
5	NO_2	C (O) NH ₂	C ₆ H ₅	193.5-195.5
· · · · 6 · · ·	NO2	~~CO ₂ H ~~~	~ C ₆ H ₅	203-206
7	NO_2	CO ₂ CH ₃	C ₆ H ₅	58-60.5
8	Cl	C (O) NH ₂	осн ₂ с ₆ н ₅	137-140
9	Cl	C (O) NH ₂	OCH ₂ CH ₂ CH (CH ₃) ₂	137-139
10	Cl	CO ₂ CH ₃	осн ₂ с ₆ н ₅	47-51
11	Cl	со ₂ н	осн ₂ с ₆ н ₅	135-138
12	Cl	CO ₂ H	OCH2CH2CH (CH3)2	76-82
13	Cl	CO2CH3	OCH2CH2CH(CH3)2	oil
14	C1	CO ₂ CH ₃	OCH ₂ CH CH ₂	oil
15	Cl	∞ ₂ н	OCH ₂ CH CH ₂	123-127

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	16	Cl	со2сн3	OCH ₂ C (CH ₃) (OCH ₃) ₂		113-118
	17	C1	СНО	OCH2CH (CH3) 2		oil
	18	Cl	C (O) NH ₂	OCH ₂ CH CH ₂ CH ₂ CH ₂	ů:	134-136
	19	C1	со ₂ сн ₃	OCH ₂ (2,6F-C ₆ H ₃)	÷ 1	82-86
	20	Cl	CO ₂ CH ₃	cH_2 $ $ och_2-c-ch_3	23	oil
	21	Cl	со ₂ сн ₃	осн ₂ со ₂ сн ₃	*;* * *	oil
	22	Cl	СH ₂ OH	OCH ₂ CH (CH ₃) ₂		oil
	23	Cl	со ₂ сн ₃	OCH ₂ CH $<$ CH ₂ CH ₂	Çi	oil
	24	Cl	CH=N-OH	осн ₂ сн (сн ₃) ₂	.5,	79-81
	25	CJ	со ₂ н	OCH ₂ (2, 6-FC ₆ H ₃)	2	167-171
	26	Cl	со2н	СН ₂ осн ₂ -с-сн ₃	***	89-92
	27	Cl	C (O) NH ₂	осн ₂ (2, 6-FC ₆ H ₃)		175-176
	28	Cl	C (O) NH ₂	$\begin{array}{c} \text{CH}_2\text{CH}_2 \\ \text{CH}_2 \\ \text{CH}_2 \\ \text{II} \end{array}$		149-151
	29	CI	C (O) NH ₂	СН ₂ ОСН ₂ -С-СН ₃	3	115-117
	43	Cl	со ₂ сн ₂ сн (сн ₃) ₂	OCH ₂ CH (CH ₃) ₂	. 1.	105-107
	44	Cl	Cann	OCH2CH (CH3)2	53.	37-41
•	45	C1	C(NH ₂)=N-OH(trans)	осн ₂ сн (сн ₃) 2		81-84
	46	Cl	$C(NH_2) = NOH(cis)$	OCH ₂ CH (CH ₃) ₂	- 1	110-124
	47	Cl	C (O) NHCH ₂ CF ₃	OCH ₂ CH (CH ₃) ₂	1.1	94-97
	48	Cl	с (о) иносн ₃	OCH ₂ CH (CH ₃) ₂	2	82-85
	49	NO_2	C=N	CH≖CHCO ₂ CH ₃	-50	160-165
	50	NO_2	C (O) NH ₂	CH=CHCO2CH3	**	150-177
	51	Cl	$C(NH_2) = N - OC(O) OCH_3$	OCH ₂ CH (CH ₃) ₂	•	98-101
	52	Cl	$C(CI) = N - OCH_3$	OCH ₂ CH (CH ₃) ₂	•	oil
	53	C1	CH=CBr ₂	OCH ₂ CH (CH ₃) ₂		oil
	54	CJ	C=N	3-CF3C6H4	•	92-98
	55	Cl	C (O) NH ₂	3-CF ₃ C ₆ H ₄		138-145
	56	Cl	C (0) NH ₂	3-C1C ₆ H ₄		122-128
	57	Cl	C (0) NH ₂	C ₆ H ₅		166-170

58	Cl	C (0) NH ₂	4-0CH3C6H4	180-184
59	Cl -	C (0) NH ₂	4-C1C6H4	198-202
60	Cl	C (O) NH ₂	4-FC ₆ H ₄	167-170
61	Cī	C (0) NH ₂	4-BrC6H4	>250
62	Cl	C (O) NH ₂	(4-CH ₂ CH ₂ CH ₂ CH ₃)C ₆ H ₄	196-200
63	Cl	C≡N	C≡CCH ₂ CH ₂ CH ₃	oil
64	Br	СНО	CH2CH2CH3	oil
65	Cl	C=N	$CH_2CH_2CH_2CH_2CH_3$	oil
66	Cl	CEN	CH2CH2CH3	oil
67	C1	C=N	CH ₂ CH (CH ₃) ₂	oil
68	Cl ,	C≡Ñ.	CH ₂ CH ₂ CH (CH ₃) ₂	oil
69	C1	C=N	CH ₂ Si(CH ₃) ₃	oil
70	Cl	C (O) NH ₂	CH2CH2CH2CH3	91-99
71	Cl	C (O) NH ₂	CH2CH2CH2CH3	118-121
72	Cl	C (0) NH ₂	CH2CH2CH(CH3)2	88-107
73	Cl	C (O) NH ₂	CH ₂ CH (CH ₃) ₂	97-107
74	Cl	CEN	C=C-Si(CH ₃) ₃	106-109
7 5	Cl	$C(NH_2) = N - OH$	CH ₂ CH ₂ CH (CH ₃) ₂	gum
76	Cl	C=N	2-C ₄ H ₃ O	79-83
77	C1	c (0) NH ₂	2-C ₄ H ₃ O	86-125
78	Cl	CMN		116-131
			s	
79	Cl	C=N		120-135
			N	
80	Cl	C (0) NH ₂		164-174
			N	
81	Cl	(CO) NH ₂	ñ 1	168-172
			D D	

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82	ÇĪ	C≡N	сн3	111-112
		·	N	•
83	C1	C≡N	CH ₃	130-141
84	Cl	C≡N	CH ₃	112-115
			_nn	
85	C1	C (O) NH ₂	CH ₃	60-83
86	Br	Сн=N-ОН	`Сн ₃ Сн ₂ Сн ₂ Сн ₂ Сн ₃	oil
87	Cl	C(0) NH ₂	C ₆ H ₅	135-150
			— _N	
. 88	. C1 "	(CO) NH ₂	CH ₃	, .83 - 98
	·		_nn	
89	CJ	C≔N	Ç1	oil
			-°TO CF3	
90	Cl	C≡N	~~\\\\	117-121

91	CI	C≡N	CI	oil
· 🤲 •		to ordinaria to the second		Maria da
92	Cl	C (0) NH ₂		>250
93	Cl	C≅N		163-168
		- 1-000	CH ₃	
94	C1	C (O) NH ₂	CH ₃ S N	151-164
95	Cl	C=N	-o-n=ch-c ₆ H ₅	oil
96	Cl	CmN	-O-N=C (CH ₃) ₂	125-128
97	C1_	_ C (0) NH ₂	_o N C6H5	, 161-163
98	Cl	с (0) ин ₂	CI CF3	163-172
99	Cl	C (O) NH ₂	-O-N=C (CH ₃) 2	129-130
100	C1	C≡N	CH=CHOCH3	62-70
101	Cl	C≡N	-осн ₂ с (о) и (сн ₃) с ₆ н ₅	105-109
102	Cl	C(CN) = N - OH	-осн ₂ сн (сн ₃) ₂	oil
103	C1	C (O) NH ₂	-0-CF ₃	108-120

105	CI	C=N	oCF3	58 - 69
106	Cl	Ċ ≡ N	CH ₃	170-172
107	NO ₂	C=N	C (O) CH2CH (CH3) 2	oil
108	NO ₂	C=N	-C (O) CH CH ₂	106-117
109	CI	CH ₂ -N	-осн ₂ сн (сн ₃) ₂	55-64
110	CI	CF ₃	-осн ₂ сн (сн ₃) ₂	oil
111	Cl	NH	-осн ₂ сн (сн ₃) ₂	124-127
112	Cl	C (O) NHNHC (CH ₃) ₃	-OCH ₂ CH (CH ₃) ₂	50-64
113	.C1	C (O) NHN-C (O) NHCH2CH3	-осн ₂ сн (сн ₃) ₂	oil
114	CJ.	CEEN	C (O) CH (OCH ₃) ₂	135-141
115	Cl	C≡CH	OCH ₂ CH (CH ₃) ₂	oil
116	Cl	CH ₂ C1	OCH ₂ CH (CH ₃) ₂	oil
117	Cl	CH ₂ CN	OCH ₂ CH (CH ₃) ₂	oil
118	Cl	CH ₂ C (O) NH ₂	OCH ₂ CH (CH ₃) ₂	102-110
119	I	C (O) OH	CH2CH2CH2CH3	82-89
121	Br	CEN	OCH ₂ CH (CH ₃) ₂	oil
122	Br	C (O) NH ₂	OCH2CH (CH3) 2	98-111
123	NO_2	C≡N	OCH ₂ CH (CH ₃) ₂	oil
124	NO_2	C (O) NH ₂	OCH ₂ CH (CH ₃) ₂	123-125

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INDEX TABLE B

$$R^3$$
 R^2

Compounds of Formula I wherein:

CMPD	R1	R ²	R ³	mp (°C)
30	Br	CO2CH3	OCH2CH (CH3)2	011
31	Br	со ₂ н	OCH2CH (CH3)2	105-109
32	Br	C (0) NH ₂	OCH2CH (CH3)2	135-137
38	NO_2	co_2 CH $_2$ CH $(CH_3)_2$	OCH ₂ CH (CH ₃) ₂	38-42
39	NO ₂	CO ₂ H	OCH2CH(CH3)2	oil
. 40	NO ₂	CHO :	осн ₂ сн (сн ₃)-2	45-48
41	NO ₂	HC=N-OH	осн ₂ сн (сн ₃) ₂	96-102
42	NO ₂	C≡N	OCH2CH (CH3) 2	68-77
120	NO ₂	CH=C (CN) 2	OCH2CH (CH3) 2	78-85

INDEX TABLE C

Spectral Data

CMPD

1 NMR (CDCl₃): ppm δ 7.88 (d, 1H); 7.0 (s, 1H); 6.8 (d, 1H); 3.89 (s, 3H); 3.74 (d, 2H); 2.0 (m, 1H); 1.035 (d, 6H)

IR (Neat): 1730 cm⁻¹ (C=O)

```
13 NMR (CDC13):
                       ppm \delta 7.87 (d, 1H); 6.96 (s, 1H); 6.8 (d, 1H);
                       4.0 (m, 2H); 3.89 (s, 3H); 1.8 (m, 1H); 1.67
      (m, 2H); 0.97 (d, 6H)
                       1725 cm<sup>-1</sup> (C=O)
      IR (Neat):
                       ppm \delta 7.88 (d, 1H); 7.0 (s, 1H); 6.8 (d, 1H);
  14 NMR (CDC13):
                       5.3 (m, 1H); 4.07 (m, 4H); 4.06 (m, 2H); 3.89
                       (s, 3H)
                       1720 cm<sup>-1</sup> (C=O)
      IR (Neat):
                      ppm \delta 10.5 (s, 1H); 7.88 (d, 1H); 6.93 (s,
  17 NMR (CDCl3):
                       1H); 6.8 (d of d, 1H); 3.86 (d, 2H); 2.1 (m,
                      1H); 1.05 (d, 6H)
                      1680 \text{ cm}^{-1} \text{ (C=O)}
      IR (Neat):
                      ppm \delta 7.87 (d, 1H); 6.98 (s, 1H); 6.8 (d of d,
  20 NMR (CDC13):
                      1H); 5.0 (s, 2H); 4.64 (s, 2H); 3.9 (s, 3H);
                      1.82 (s, 3H)
                      1725 cm<sup>-1</sup> (C∞O)
      IR (Neat):
  21 NMR (CDC13):
                      ppm \delta 7.89 (d, 1H); 6.98 (s, 1H); 6.8 (d of d,
                      1H); 4.68 (s, 2H); 3.9 (s, 3H); 3.88 (s, 3H)
                      1755; 1720 cm<sup>-1</sup> (C=O)
      IR (Neat):
 22 NMR (CDC13):
                      ppm \delta 7.34 (d, 1H); 6.93 (s, 1H); 6.8 (d of d,
                      1H); 4.77 (d, 2H); 3.71 (d, 2H); 2.15 (m, 1H);
                      1.8 (s, 1H); 1.026 (d, 6H)
                      IR (Neat):
                      ppm \delta 7.87 (d, 1H); 6.98 (s, 1H); 6.8 (m, 1H);
 23 NMR (CDC13):
                      5.0 (d, 2H); 4.64 (s, 2H); 3.9 (s, 3H); 1.82
                      (s, 3H)
     IR (Neat):
                      1725 cm<sup>-1</sup> (C=O)
 30 NMR (CDC13):
                      ppm \delta 7.53 (d, 1H); 7.31 (m, 1H); 6.8 (d of d,
                      1H); 3.92 (s, 3H); 3.7 (d, 2H); 2.0 (m, 1H);
                      1.03 (d, 6H)
                      1740 \text{ cm}^{-1} \text{ (C=Q)}
     IR (Neat):
 39 NMR (CDCl3):
                      ppm \delta 8.0 (d, 1H); 7.5 (b, s, 1H); 7.2 (s,
                      1H); 6.8 (d, 1H); 3.8 (d, 2H); 2.0 (m, 1H);
                      1.02 (d, 6H)
                      3400, 1712 cm<sup>-1</sup>
     IR (Neat):
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ppm \delta 7.37 (d, 1H); 6.95 (s, 1H); 6.8 (d, 1H);
       52 NMR (CDCl3):
                            4.0 (s, 3H); 3.73 (d, 2H); 2.1 (m, 1H); 1.02
                            (d, 6H
           IR (Neat):
                            1601 (C=N) cm<sup>-1</sup>
                            ppm \delta 7.6 (d, 1H); 7.5 (s, 1H); 6.93 (s, 1H);
       53 NMR (CDCl<sub>3</sub>):
                            6.8 (d, 1H); 3.71 (d, 2H); 2.08 (m, 1H); 1.01
                            (d, 6H)
                           ppm \delta 7.568 (m, 2H); 7.52 (d, 1H); 2.413 (m,
       63 NMR (CDCl3):
                            2H); 1.64 (m, 2H); 1.047 (t, 3H)
                           2229 (C≡N) cm<sup>-1</sup>
           IR (Neat):
                           ppm \delta 10.4 (s, 1H); 7.84 (d, 1H); 7.468 (s,
       64 NMR (CDCl3):
                           1H); 7.25 (d, 1H); 2.63 (m, 2H); 1.37 (m, 2H);
                           0.94 (m, 3H)
                           2748; 1692 (C=O) cm<sup>-1</sup>
           IR (Neat):
                           ppm \delta 7.55 (d, 1H); 7.32 (s, 1H); 7.19 (d,
       65 NMR (CDC13):
                           1H); 2.62 (t, 2H); 1.62 (m, 2H); 1.32 (m, 4H);
                           0.89 (t, 3H)
           IR (Neat):
                           2231 (C≡N) cm<sup>-1</sup>
       66 NMR (CDCl3):
                           ppm \delta 7.56 (d, 1H); 7.32 (s, 1H); 7.198 (d,
                           1H); 2.64 (t, 2H); 1.602 (m, 2H); 1.38 (m,
                           2H); 0.93 (t, 3H)
                           2231 cm<sup>-1</sup> (C≡N)
           IR (Neat):
1H); 2.51 (d, 2H); 1.9 (m, 1H); 0.91 (d, 6H)
                           2210 (C≡N) cm<sup>-1</sup>
           IR (Neat):
       68 NMR (CDCl3):
                           ppm \delta 7.55 (d, 1H); 7.32 (s, 1H); 7.198 (d,
                           1H); 2.646 (t, 2H); 1.5-1.6 (m, 3H); 0.93 (d,
                           6H)
                           2231 (C≡N) cm<sup>-1</sup>
           IR (Neat):
      69 NMR (CDC13):
                           ppm \delta 7.48 (d, 1H); 7.1 (s, 1H); 6.95 (d, 1H);
                           2.14 (s, 2H); 0.006 (s, 9H)
                           2210 cm<sup>-1</sup> (C≡N)
           IR (Neat):
      75 NMR (CDC13):
                           ppm \delta 7.41 (d, 1H); 7.23 (s, 1H); 7.08 (d,
                           1H); 6.5 (bs, 1H); 4.94 (bs, 2H); 2.6 (t, 2H);
                           1.6 (m, 1H); 1.49 (m, 2H); 0.93 (d, 6H)
```

```
IR (Nujol):
                        1649 (C≡N) cm<sup>-1</sup>
  86 NMR (CDCl<sub>3</sub>):
                       ppm \delta 8.5 (s, 1H); 8.4 (s, 1H); 7.7 (d, 1H);
                       7.4 (s, 1H); 2.6 (m, 2H); 1.6 (m, 2H); 1.27
                        (m, 2H); .97 (m, 3H)
                       ppm \delta 7.8 (s, 1H); 7.6 (m, 2H); 7.26 (m, 1H);
  89 NMR (CDCl3):
                       7.0 (s, 1H); 6.8 (d, 1H)
                       2232 cm<sup>-1</sup> (C≡N)
      IR (Neat):
                       ppm \delta 7.6 (d, 1H); 7.53 (s, 1H); 7.32 (d, 1H);
  91 NMR (CDCl3):
                       7.11 (d, 1H); 7.09 (s, 1H); 6.83 (d, 1H)
                       2230 cm<sup>-1</sup> (CEN)
      IR (Neat):
 95 NMR (CDC13):
                       ppm δ 7.65 (m, 4H); 7.48 (m, 3H); 7.26 (m,
                       1H); 7.1 (t, 1H) + isomer
      IR (Neat):
                       2229 cm<sup>-1</sup> (C=N), 1631 (C=N) cm<sup>-1</sup>
102 NMR (CDCl3):
                       ppm \delta 7.42 (d, 1H); 6.99 (s, 1H); 6.83 (m,
                       1H); 3.74 (d, 2H); 2.08 (m, 1H); 1.02 (d, 6H)
                       3313 cm<sup>-1</sup> (OH), 2195 cm<sup>-1</sup> (C=N)
     IR (Neat):
107 NMR (CDC13):
                       ppm δ 8.82 (s, 1H); 8.34 (d, 1H); 8.05 (d,
                       1H); 2.92 (d, 2H); 2.3 (m, 1H); 1.03 (d, 6H)
     IR (Neat):
                       2234 (C=N); 1695 (C=O) cm<sup>-1</sup>
                       ppm \delta 7.55 (d, 1H); 7.0 (s, 1H); 6.85 (d, 1H);
110 NMR (CDC13):
                       3.76 (d, 2H); 2.1 (m, 1H); 1.04 (d, 6H)
     IR (Neat):
                       1599, 1556 (C=N) cm<sup>-1</sup>
                      ppm δ 9.125 (s, 1H); 7.4 (d, 1H); 6.866 (s, ...
113 MMR (CDC13):
                       1H); 6.8 (d, 1H); 5.3 (t, 1H); 3.72 (d, 2H);
                       3.01 (m, 2H); 2.08 (m, 1H); 1.4 (s, 9H); 1.0
                       (m, 9H)
                       1700, 1602 (C=O) cm<sup>-1</sup>
     IR (Neat):
115 NMR (CDC13):
                      ppm \delta 7.4 (d, 1H); 6.95 (s, 1H); 6.78 (d, 1H);
                       3.7 (d, 2H); 3.27 (s, 1H); 2.08 (m, 1H); 1.01
                       (d, 6H)
     IR (Neat):
116 NMR (CDCl3):
                      ppm \delta 7.33 (d, 1H); 6.945 (s, 1H); 6.8 (d,
                      1H); 4.67 (s, 2H); 3.7 (d, 2H); 2.04 (m, 1H);
                      1.01 (d, 6H)
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117 NMR (CDCl₃): ppm δ 7.38 (d, 1H); 6.95 (s, 1H); 6.83 (d,

...1H); 3.76.(s, 2H); 3.7 (d, 2H); 2.08 (m, 1H);

1.02 (d, 6H)

IR (Neat): 2251 (C≡N) cm⁻¹

121 NMR (CDCl₃): ppm δ 7.55 (d, 1H); 7.18 (s, 1H); 6.9 (d, 1H);

3.75 (d, 2H); 2.05 (m, 1H); 1.03 (d, 6H)

IR (Neat): 2229 (C≡N) cm⁻¹

123 NMR (CDC1₃): ppm δ 7.79 (d, 2H); 7.27 (m, 1H); 3.87 (d,

2H); 2.1 (m, 1H); 1.06 (d, 6H)

IR (Neat): 2229 (C=N) cm⁻¹

TEST A

Seeds of barley (Hordeum vulgare), barnyardgrass (Echinochloa crus-galli), bedstraw (Galium aparine), blackgrass (Alopecurus myosuroides), bush bean 5 (Phaseolus vulgaris), cheatgrass (Bromus secalinus), chickweed (Stellaria media), cocklebur (Xanthium pensylvanicum), corn (Zea mays), cotton (Gossypium hirsutum), crabgrass (Digitaria spp.), giant foxtail (Setaria faberii), lambsquarters (Chenopodium album), 10 morningglory (Ipomoea hederacea), rape (Brassica napus), rice (Oryza sativa), sicklepod (Cassia obtusifolia), sorghum (Sorghum bicolor), soybean (Glycine max), sugar beet (Beta vulgaris), velvetleaf (Abutilon theophrasti), wheat (Triticum aestivum), wild 15 buckwheat (Polygonum convolvulus), wild oat (Avena fatua) and purple nutsedge (Cyperus rotundus) tubers were planted and treated preemergence with test chemicals dissolved in a non-phytotoxic solvent. the same time, these crop and weed species were also 20 treated with postemergence applications of test chemicals. Plants ranged in height from two to eighteen cm (one to four leaf stage) for postemergence treatments. Treated plants and controls were maintained in a greenhouse for twelve to sixteen days, 25 after which all species were compared to controls and visually evaluated. Plant response ratings, summarized in Table A, are based on a scale of 0 to 10 where 0 is no effect and 10 is complete control. A dash (-) response means no test result.

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Table A		COM	ΦOU	IND.		Table A		CO	MPO	MD	
Rate 2000 g/ha	1	4	5	6	7	Rate 2000 g/ha	1	4	5	6	7
POSTEMERGENCE						PREEMERGENCE					
Barley	0	-	-	-	-	Barley	0	_	-	-	-
Barnyardgrass	1	10	10	8	6	Barnyardgrass	0	10	10	8	8
Bedstraw	2	_	_	-	-	Bedstraw	0	-	-	-	-
Blackgrass	0	-	-	-	-	Blackgrass	0	-	-	-	-
Bush bean	-	0	1	6	2	Cheatgrass	0	-	-	-	-
Cheatgrass	0	-	-	_	-	Chickweed	-	-	-	-	-
Chickweed	4	-	-	-	-	Cocklebur	0	0	10	-	0
Cocklebur	O	0	1	1.	1	Corn	0	0	9	2	0
Corn	0	0	0	0	1	Cotton	0	_	-	-	-
Cotton	0	0	1	1	2	Crabgrass	0	0	0	0	4
Crabgrass	1	0	0	5	1	Giant foxtail	0	-	-	-	-
Giant foxtail	0	-	-	-	-	Lambsquarter	-	-	-	-	-
Lambsquarter	-	-	-	-	-	Morningglory	0	0	10	0	0
Morningglory	2	0	0	1	2	Nutsedge	0	0	0	0	0
Nutsedge	0	0	0	0	0	Rape	0	-	_	_	_
Rape	0	-	-	-	-	Rice	0	0	3	1	0
Rice	O	0	0	0	1	Sicklepod	**	0	1	0	0
Sicklepod	-	0	0	1	1	Sorghum	0	0	0	0	0
Sorghum	0	0.	0	0	·· 1 · · · ·	Soybean	0.	0	0 .	0	0
Soybean	0	0	0	1	1	Sugar beet	-	-	-	-	-
Sugar beet	0	-	-	-	-	Velvetleaf	0	-	-	-	-
Velvetleaf	0	-	-	-	-	Wheat	0	0	0	0	0
Wheat	0	0	0	0	1	Wild buckwheat	0	-	-	-	-
Wild buckwheat	0	-	-	-	-	Wild oat	0	0	0	0	0
Wild oat	2	0	0	0	1						

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Table A								٠					ខ	ğ	COMPOUND											
Rate 400 g/ha	O.	ო	&	9 1	10 1	11 1	0	13 1	4	5 1	6 17	-	8 19	0	0 21	22	23	24	25	26	27	28	53	30	31	32
POSTEMERGENCE								•											•							
Barley		0	0															0	0	0	0	0	0	0	0	0
Barnyardgrass	4		ις.							0	0	4	0					œ	Ö	0	00	თ	თ	0	0	O
Bedstraw			0					•										0	0	0	0	0	0	0	0	0
Blackgrass		0	0										0		0	0		7	0	0	-	0	0	0	0	က
Bush bean	•		ı								·							ı	•	ı	ı	1	ı		J	
Cheatgrass	ŀ		0								•	'	,	•		1		-	0	0	0	0	0	0	0	0
Chickweed			0															(c.)	0	0	m	0	0	0	0	0
Cocklebur			0															0	0	0	0	0	0	0	0	0
Corn			0															0	0	0	0	0	0	0	0	0
Cotton			0															0	0	0	0	0	0	0	0	0
Crabgrass			0															0	0	0	0	0	0	0	0	0
Giant foxtail			0															0	0	0	0	O	0	0	0	0
Lambsquarter			0															0	0	0	0	0	0	0	0	0
Morningglory			0															0	0	0	0	0	O	0	0	0
Nutsedge			0															0	0	0	0	0	0	0	0	0
Rape			0															0	0	0	0	0	0	0	0	0
Rice			0															0	0	0	0	0	0	0	0	0
Sicklepod			ı															ı	ı	ŧ	1	1	ŧ	1	- 1	£
Sorghum	0		0	0	0	0	0	 •	٥	0	0	0	0	0	0	0	0	0	0	0	0	O	0	0	0	0
Soybean			0															0	0	0	0	0	0	0	0	0
Sugar beet			0															0	0	0	'n	0	0	0	0	0
Velvetleaf			0															0	0	0	0	0	0	0	0	0
Wheat			0															ო	0	0	0	0	0	0	0	0
Wild buckwheat			0					-										0	0	0	0	0	0	0	0	
14 V V 13			_															•	•	1	•	•		٠	,	ı

Tange w													Ü		55	_									
Rate 400 g/ha	38	39	40	41	42 4	44 4	45 4	46 4	47 4	48 4	49 5	50 51	1 52	2 53	3 54	55	56	57	58	5.9	9	61	62	63	
POSTEMERGENCE																						1		!	
Barley	0	0	0	0	0	0		C)	0		0		0	0							0	0	0	0	
Barnyardgrass	0	0	0	0	m	o,	• •	01	7	00	_	0	6	.,	2 7	10	<u>۔</u>	6	80	 	10		4	Ŋ	
Bedstraw	0	0	0	0	0	0	0	0	0	0	0	_	0	0						٠.		0	0	0	
Blackgrass	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0					0		0	0	
Bush bean	•	ı	1	ı		ı	1	1	ı	ı	,	,	٠,	,	•			•			1		. 1		
Cheatgrass	0	0	0	0	0	0	0	0	0	0	0			0	0								0	0	
Chickweed	0	0	0	0	0	0	0	0	0											_			0	0	
Cocklebur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-		0	0	0	0	
Corn	0	0	0	0	7	0	0	0	0											0			0	0	
Cotton	0	0	٥	0	0	0	0	~	0														0	0	
Crabgrass	0	0	٥	0	0	0	0	0	0														0	0	
Giant foxtail	0	0	0	Q	0	0	0	•	0														0	0	
Lambsquarter	0	0	0	0	0	0	0	ï	ŧ														0	0	
Morningglory	0	0	Ο.	O	0	0	0		0		0												0	O	
Nutsedge	0	0	0	0	0	0	0	0	0				ı										0	0	
Rape	0	0	0	0	0	0	0		0														0	0	
Rice	0	0	0	0	0	0	0		0														0	0	
Sicklepod	ì	1	ı	ı	ı		ı	1	1														1	1	
Sorghum	0	0	0	0	0	0	0		0	0	0	0	0		1	_	0			0	0	0	0	0	
Soybean	0	0	0	0	0	0	0	0	0														0	0	
Sugar beet	0	0	0	0	0	0	0	0	0														C	· c	
Velvetleaf	0	0	0	0	0	0	0	0	0														C	C	
Wheat	0	0	0	0	0	0	~	7	0		0												•	· c	
Wild buckwheat	0	0	0	0	0	0	0	0	0														0	0	
Wild oat	0	٥	0	0	0	0	Н	m	0	0	0	0	0										· C		

raple A	i	Ļ	į	Ę	6	•	í	ì					_		6	_				•									
rate 400 g/na Postemergence	64 65	G G	٥	ò	ğ	D D	2	7	Z	<u>.</u>	74	75	76.7	77 7	78 7	8 6	0 81	82	ထ	aō m	4 85	98	87	& &	හ න ~	8	91	92	
Barley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Barnyardgrass	Ŋ	4	œ	00	∞	4	0	თ	9	∞	0	2	-	-	7														
Bedstraw	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0														
Blackgrass	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												•		
Bush bean	•	1	1	t	ı	•	ı	١	1	1	ı	1																	
Cheatgrass	0	0	0	0	0	0	0	0	Φ.	0	0	0	0	0	0														
Chickweed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Cocklebur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Corn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	รร	H	C\$	ò	
Cotton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Crabgrass	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Giant foxtail	0	0	0	0	0	0	0	0	Θ,	0	0	0	0	0	0														
Lambsquarter	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0														
Morningglory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Nutsedge	ı	0	0	0	0	0	0	t	0	0	0	0	o	0	0														
Rape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Rice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Sicklepod	ı	ı	ı	ı	•	1	ı	F		•	1	ı	,																
Sorghum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Soybean	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Jar beet	0	0	0	0	0	0	0	0	0	0	0	0	ന	0	0														
lvetleaf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Wheat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Wild buckwheat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Wild oat	0	0	0	0	0	0	0	0	0	0	0	0	0	_	c														

ים דרום א								***			ช		Ę										
Rate 400 g/ha	6	94	95	96	97	98	9 100	101:0	103	3 104	105	106	107	108	109	110	111	112	113	134	7.15	116	
POSTEMERGENCE) !) 	
Barley	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	
Barnyardgrass	0	0		ო	0						N	0	7	m	-	<u>م</u>	φ	o 1	Ю	0	e (et)	• •	
Bedstraw	0	0	0	0	0	N	0		-		_	0	0	0	0	0	0	0	0	0	· C	· c	
Blackgrass	0	0	0	0	0						н	0	0	0	0	0	0	0	0	0	0	8	
Bush bean	ı	ı	ı	•	•	ı	•		Ì			ı	1	1	•	. 1	•	•	. 1	• •	, ,	•	
Cheatgrass	0	0	0	0	0							0	0	0	0	0	0	0	0	C	_	4	
Chickweed	0	0	O	0	0							0	0	0	0	0	0	0	0	0	0	· c	
Cocklebur	0	0	0	0	0	0	_ _		•	0	0	0	0	0	0	0	0	0	0	0	0	0	
Corn	0	0	0	0	0							0	74	~	0	0	0	0	m	0	0	0	
Cotton	0	0	0	0	01							0	0	-	0	0	0	0	0	0	· C	0	
Crabgrass	0	0	O	0	0							0	0	~	0	~	0	0	m	· c	· c	, -	
Glant fortail	0	0	0	0	0							0	0	-	0	0	0	0	0	0	¢		
Lambsquarter	0	0	0	0	0			,				0	0	0	0	0	0	0	0	0	· c	· c	
Morningglory	0	0	0	0	0							0	0	0	0	0	0	0	0	· C	· c	· c	
Nutsedge	0	0	O	0	0							0	0	0	•	1	0	0	0	0	• 0	• 0	
Rape	0	0	0	0	0							0	0	m	0	0	0	0	0	0	0	• 0	
Rice	1.	1	1	1	0			,				0	0	0	0	0	0	c	~	· c	• •	,	
Sicklepod	•	1	ı	ı	1		•					ı	•	•	ı	• 1	. 1		1 1		,	1 1	
Sorghum	0	0	0	0	0	N						0	0	7	0	0	0	0	C	c	-	c	
Soybean	0	0	0	0	0		0	*****				0	0	0	4	0	0	0	• -	• •	· c	, c	
Sugar beet	0	0	~	0	04							0	0	ന	0	0	0	0	· C	· c	· c	· c	
Velvetleaf	0	0	0	0	0							0	0	സ	0	0	0	· c	· c	· c) C	• •	
Wheat	0	0	0	0	0							0	0	0	0	0		· c	• •	· c) c	,	
Wild buckwheat	0	0	0	0	0							0	0	0	•	0	0	• 0	· c	· c	•	-	
Wild oat	0	0	0	0	0	~		_				0	. •	0	C	· c	· c	· c		• •	· c	, ,	

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Table A	CC	MPO	UND	Table A	C	OMPO	JND
Rate 400 g/ha	117	118	120	Rate 400 g/ha	117	118	120
Postemergence				Postemergence			
Barley	0	0	0	Morningglory	0	0	0
Barnyardgrass	2	2	2	Nutsedge	0	0	0
Bedstraw	2	0	0	Rape	0	0	0
Blackgrass	1	0	0	Rice	0	0	2
Bush bean	-	-	-	Sicklepod	-	-	_
Cheatgrass	0	0	0	Sorghum	0	0	2
Chickweed	3	0	0	Soybean	0	0	1
Cocklebur	O	0	0	Sugar beet	0	-	0
Corn	0	0	0	Velvetleaf	0	0	0
Cotton	0	0	0	Wheat	0	0	0
Crabgrass	0	Ó	1	Wild buckwheat	2	0	0
Giant foxtail	0	0	1	Wild oat	0	0	0
Lambsquarter	6	_	3				

Table A													ĝ	COMPOUND	Ę											
Rate 400 g/ha	8	m	6 0	9 1	0	-4	12 13	3 14	15	16	11	18	13	20	21	22	23	24 2	5 2	9	27 2	8	9 30	33	32	
PREEMERGENCE																										
Barley	0	LO	0	0	0	0	0			-	0	0	0	0	0	0	0	0	ó	0			0			
Barnyardgrass	4	01	~	_	0	0		0	0			0	0	0	0	ന	ო	9	0	0	r.	~ ~	0	0	9	
Bedstraw	0	0	0	0	0							*	0	0	0	0	0	0	0	0						
Blackgrass	0	0	0	0	0	0						4	0	0	0	O	0	0	0	0						
Cheatgrass	0	6	0	0	0	0						0	0	0	0	0	0	0	0	0						
Chickweed	0	0	ı	,	ſ	0		٠				0	0	0	0	0	0	0	0	0						
Cocklebur	0	0	0	o	0	0		,				0	0	0	0	0	0	0	0	0						
Corn	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Cotton	0	0	0	0	0	0		**				0	0	0	0	0	0	0	0	0						
Crabgrass	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Giant foxtail	0	0	0	0	0	0	•	0.0		0	0	0	0	0	0	0	0	0	0	0			0			
Lambsquarter	0	ı	0	0	0	0						0	0	0	0	0	0	0	0	0						
Morningglory	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Nutsedge	0	0	0	0	0	0		• • •				0	Φ	0	0	0	0	0	0	0						
Rape	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Rice	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Sicklepod	ı	ı	ŧ	ı	1			٠				1	ŧ	ŀ	ı	1	i	ı		ı						
Sorghum	0	0	0	0	0	0		. •				0	0	0	0	0	0	0	0	0						
Soybean	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Sugar beet	0	ന	0	0	0	0						0	0	0	0	0	0	0	0	0						
Velvetleaf	0	0	0	0	0	0		••				0	0	0	0	0	0	0	0	0						
Wheat	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0						
Wild buckwheat	0	0	0	0	0	0	0					0	0	0	0	0	0	0	0	0						
Wild oat	0	0	0	0	0	0		. 101-				0	0	0	0	0	0	0	0	0						

Table A								•					8	COMPOUND	8									
Rate 400 g/ha	38 3	39 4	404	41 4	42 4	44 4	45 4	46 4	47 48	8 49	50	51	52	53	54	55	56	57	58	59	9	61	62	63
PREEMERGENCE															-				٠					
Barley	0	0	0	0		•	0	0	0	_	_	_	٥	-	0	0	0	0	0	0	0	0	0	0
Barnyardgrass	0	0	0	0			-								7	9	۵	φ	Ġ	&	ക	0	~~	m
Bedstraw	0	0	0	0													0	0	0	0	0	0	0	. 0
Blackgrass	0	0	0	0													0	0	0	0	0	0	0	0
Cheatgrass	0	0	0	0				٠.									0	ŧ	0	0	0	ന	0	
Chickweed		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ı	0	0	0	0	0	0
Cocklebur	0	0	0	0													0	0	0	0	0	0	0	0
Corn		0	0	0													0	0	0	0	0	0	0	0
Cotton		0	0	0													0	0	0	0	0	0	0	0
Crabgrass		0	0	0													0	0	0	0	0	~	0	0
Giant foxtail		0	0	0													0	0	0	0	0	.0	0	0
Lambsquarter		0	0	0				•••									0	0	0	0	0	0	Ŀ	0
Morningglory		0	0	0													0	0	0	0	0	0	0	0
Nutsedge		0	0	0													0	0	0	0	0	f	0	0
Rape		0	0	0				,									0	0	0	0	0	0	0	0
Rice		0	0	0				٠.									0	0	0	0	0	0	0	0
Sicklepod		t		1													1	1	ł	1	1			
Sorghum		0	0	0													0	0	0	0	0	0	C	0
Soybean		0	0	0				• •									0	0	0	0	0	0	0	0
Sugar beet		0	0	0													0	0	0	0	0	0	0	· c
Velvetleaf		o	0	0													0	0	0	0	0	0	0	0
Wheat		0	0	0													0	0	0	0	0	0	•	· c
Wild buckwheat		0	0	0		0								0	0	0	0	0	0	0	0	0		· c
Wild Oat		_	5	_													<	<	•	• •	• •	, 4	, ,	•

Table A								•					8	COMPOUND														-
Rate 400 g/ha PREEMERGENCE	64 65	65 (99	67	89	69 7	7 07	71 7	2	3 7	4 7	5 76	•	78	79	80	81	82	83	84	85	86	87	88	83	90	91	92
Barley	0	0	0	0	0	0	0								0		0		0		0	0	0	0	7	0	0	0
Barnyardgrass	_	H	9	ന	9	0	7	 ക						-	**		e,		0		9	7	0	0	N)	0	0	0
Bedstraw	0	0	0	0	0	ŧ	0	0							0		0		0		0	0	0	0	0	0	~	0
Blackgrass	0	0	0	0	0	0	0	0							0		0		ō		0	0	0	0	-	0	-	0
Cheatgrass	ı	0	0	0	0	0	0	0							0		0		0		0	0	0	0	7	0	~	0
Chickweed	0	0	0	0	0	0	0							_	0		0		Ö		0	0	0	0	0	0	0	0
Cocklebur	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	0	0	0	0
Corn	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	0	0	0	0
Cotton	ı	0	0	0	0	0	0	0							0		0		0		0	0	0	0	0	0	0	
Crabgrass	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	4	4	0	, 1
Giant foxtail	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	9	0	0	0
Lambsquarter	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	1	0	0	0
Morningglory	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	0	0	- KA	0
Nutsedge	0	•	0	0	0	ŧ	ŧ	1							0		0		0		0	0	0	0	0	0	0	0
Rape	0	0	0	0	0	0	0								0		0		0		0	0	0	0	N	C	m	
Rice	0	0	8	-	0	0	0	0							0		0		0		0	0	0	0	Ç	· c	· c	
Sicklepod	1	•	1	· L	F	ι	t	1							•		1		ī		•	1		1)	, ,)	> 1
Sorghum	0	0	0	o	0	0	0	0							0		0		0		0	0	0	0	0	c	C	
Soybean	0	0	0	0	0	0	0	 O							0		0		~ O		0	0	0)	N	-		
Sugar beet	0	0	0	o	0	0	0								0		0		Ò		0	0	0	0	۵	0	N	
Velvetleaf	0	0	0	0	0	0	0								0		0		<u>`</u>		0	0	0	0	ဖ	0	0	· c
Wheat	0	0	0	0	0	o	0								0		0		0		0	0	0	0	۴-1	0	Q	0
Wild buckwheat	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	~	0	0	0
Wild oat	0	0	0	0	0	0	0	0							0		0		0		0	0	0	0	4	0	0	0

Table A	5				ı																		
rate 400 g/na PREEMERGENCE	20 20	2	υ υ	9 9	6	ი დ ი	5	100 101	1 103	3 104	4 105	2 106	107	108	109	110	111	112	113	114	115	116	
Barley	0	0	0	0	0		0							0	0	0	0	0	Ö	0	0	0	
Barnyardgrass	0	0	0	7	0		4							~	0	-	4	7	4	0	0	60	
Bedstraw	0	0	0	0	0		0							0	0	0	0	0	0	0	0	0	
Blackgrass	0	0	0	m	0		0							0	0	0	0	0	0	0	0	0	
Cheatgrass	0	0	0	~	٥		01							٥	0	0	٥	0	0	0	0	0	
Chickweed	0	0	~	~	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
Cocklebur	0	0	0	0	0		0	. •				·		0	0	0	0	0	0	0	0	0	
Corn	0	0	0	0	0		0							0	0	0	0	0	0	6	0	0	
Cotton	0	0	0	0	0									0	0	0	0	0	0	0	0	0	
Crabgrass	0	•	ı	4	0		0							0	0	0	0	0	0	0	0	· c	
Giant foxtail	0	0	0	0	0		0							0	0	0	0	0	0	0	0	0	
Lambsquarter	0	0	0	0	0		0							0	0	0	0	0	0	0	0	0	
Morningglory	0	0	0	0	0		0							0	0	0	0	0	0	0	0	0	
Nutsedge	0	0	0	0	0		0							0	0	0	0	0	1	0	1	0	
Rape	0	0	0	0	0		0							0	0	0	O	0	0	0	0	0	
Rice	0	0	0	0	0		0							0	N	0	0	0	0	0	0	0	
Sicklepod	ı	ŧ	ı	•			ı							ı	i	j	ł	ı	ı	1	ŧ		
Sorghum	0	0	0	0	0		0							0	0	0	0	O	0	0	0	0	
Soybean	0	0	0	0	0		0							0	0	0	0	0	0		· c	· c	
Sugar beet	0	0	0	0	0		0							0	0	0	0	0	0	0	0	· c	
Velvetleaf	0	0	0	O	0		0							0	0	0	0	0	0	0	0	• •	
Wheat	0	0	0	0	0		0							0	0	0	0	0	0	0	0	· c	
Wild buckwheat	0	0	0	0	0		0	٠						m	0	0	0	0	0	0	0	• •	
Wild oat	0	0	0	0	0		0							0	0	0	0	0	0	0	0	0	

Table A	C	OMPO	йир	Table A	COMPO	DUND
Rate 400 g/ha	117	118	120	Rate 200 g/ha	102	119
PREEMERGENCE				POSTEMERGENCE		
Barley	0	0	0	Barley	0	0
Barnyardgrass	4	4	1	Barnyardgrass	7	3
Bedstraw	0	0	0	Bedstraw	0	0
Blackgrass	0	0	0	Blackgrass	0	0
Cheatgrass	0	0	0	Bush bean	-	-
Chickweed	0	_	0	Cheatgrass	0	0
Cocklebur	0	0	0	Chickweed	0	2
Corn	0	0	. 0	Cocklebur	0	0
Cotton	0	0	0	Corn	0	0
Crabgrass	0	0	0	Cotton	0	0
Giant foxtail	0	0	0	Crabgrass	0	2
Lambsquarter	0	-	0	Giant foxtail	0	3
Morningglory	0	0	0	Lambsquarter	0	4
Nutsedge	0	0	0	Morningglory	0	0
Rape	0	0	0	Nutsedge	0	0
Rice	0	0	1	Rape	0	2
Sicklepod	-	-	_	Rice	0	0
Sorghum	0	0	0	Sicklepod	-	-
Soybean	0	. , 0	0.	Sorghum	, <u>,0</u> ,	0
Sugar beet	Ó	0	0	Soybean	0	0
Velvetleaf	0	0	0	Sugar beet	0	2
Wheat	0	0	0	Velvetleaf	0	3
Wild buckwheat	0	0	0	Wheat	0	0
Wild oat	0	0	0	Wild buckwheat	0	0
				Wild oat	0	0

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Table A	COMPOUND	Table A	COMPOUND
Rate 200 g/ha	102 119	Rate 200 g/ha	102 119
PREEMERGENCE		PREEMERGENCE	
Barley	0 0	Morningglory	0 0
Barnyardgrass	7 2	Nutsedge	0 0
Bedstraw	0 3	Rape	0 0
Blackgrass	0 0	Rice	0 0
Cheatgrass	0 0	Sicklepod	
Chickweed	0 3	Sorghum	0 0
Cocklebur	0 0	Soybean	0 0
Corn	0 0	Sugar beet	0 0
Cotton	0 0	Velvetleaf	0 0
Crabgrass	0 0	Wheat	0 0
Giant foxtail	0 0	Wild buckwheat	0 0
Lambsquarter	0 0	Wild oat	0 0

TEST B

Seeds of barnyardgrass (Echinochloa crus-galli), cheatgrass (Bromus secalinus), cocklebur (Xanthium pensylvanicum), crabgrass (Digitaria spp.), giant foxtail (Setaria faberii), morningglory (Ipomoea spp.), sorghum (Sorghum bicolor), velvetleaf (Abutilon theophrasti), and wild oat (Avena fatua) were planted into a sandy loam soil and treated preemergence with test chemicals dissolved in a non-phytotoxic solvent. At the same time, these crop and weed species were also 10 treated postemergence with test chemicals. Plants ranged in height from two to eighteen cm and were in the two to three leaf stage for the postemergence treatment. Treated plants and untreated controls were maintained in a greenhouse for approximately eleven 15 days, after which all treated plants were compared to untreated controls and visually evaluated for injury. Plant response ratings, summarized in Table B, are based on a 0 to 10 scale where 0 is no effect and 10 is complete control. A dash (-) response means no test 20 results.

Table Bosses	(COME	?OU	ND	www.ne Table B a war	الم	COM	POUI	ND - "	
Rate 2000 g/ha	2	3	43	45	Rate 2000 g/1	na 2	3	43	45	
POSTEMERGENCE					PREEMERGENCE					
Barnyardgrass	6	10	3	10	Barnyardgrass	9	10	0	9	
Cheatgrass	0	0	0	0	Cheatgrass	0	0	0	0	
Cocklebur	0	0	1	0	Cocklebur	0	0	0	0	
Crabgrass	2	1	2	0	Crabgrass	0	0	0	0	
Giant foxtail	1	1	1	0	Giant foxtail	0	O	0	0	
Morningglory	1	0	1	0	Morningglory	0	0	0	0	
Sorghum	1	1	1	0	Sorghum	0	0	0	0	
Velvetleaf	1	1	1	0	Velvetleaf	0	0	0	0	
Wild oats	1	1	1	0	Wild oats	0	0	0	0	

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Table B	COMPOUND	Table B COM	POUND
Rate 1000 g/ha	2 3	Rate 1000 g/ha	2
POSTEMERGENCE		PREEMERGENCE	
Barnyardgrass	2 10	Barnyardgrass	9
Cheatgrass	0 0	Cheatgrass	0
Cocklebur	0 0	Cocklebur	0
Crabgrass	1 0	Crabgrass	0
Giant foxtail	0 0	Giant foxtail	0
Morningglory	0 0	Morningglory	0
Sorghum	0 1	Sorghum	0
Velvetleaf	0 0	Velvetleaf	0
Wild oats	0 0	Wild oats	0

TEST C

The test chemicals were formulated in a nonphytoxic solvent and applied to water that covered the

5 soil surface (flood application). Seeds of
barnyardgrass (Echinochloa crus-galli), and rice (Oryza
sativa) were planted in silt loam soil in separate
containers. Containers of barnyardgrass and rice were
grown for ten days (barnyardgrass at 2 leaf stage) and

10 flooded one day prior to treatment. Water depth was
maintained at approximately 2.5 cm for the duration of
the test.

All plant species were grown using normal greenhouse practices. Treated plants were compared to untreated controls and visually evaluated eleven to fifteen days after treatment. Plant response ratings, summarized in Table C, were recorded on a 0 to 100 scale where 0 is no effect and 100 is complete control. A dash (-) response means no test result.

20

COMPOUND Table C Rate 250 g/ha _28 POSTEMERGENCE Barnyardgrass 2 100 5 Rice Japonica 0 COMPOUND Table C Rate 62 g/ha 28 POSTEMERGENCE 10 Barnyardgrass 2 100 90 100 100 100 Rice Japonica Table C COMPOUND Rate 16 g/ha 28 15 POSTEMERGENCE Barnyardgrass 2 100 40 95 95 Rice Japonica Table C COMPOUND 20 Rate 4 g/ha 28 46 55 POSTEMERGENCE Barnyardgrass 2 95 20 85 80 Rice Japonica 0 0 25 Table C COMPOUND 1 g/ha Rate 55 POSTEMERGENCE Barnyardgrass 2 65 60 Rice Japonica 0 30

TEST D

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Plastic pots were partially filled with silt loam soil then saturated with water. Japonica rice (Oryza sativa) seedlings, barnyardgrass (Echinochloa crusgalli) and watergrass (Echinochloa walteri) were grown

to the 1, 2 and 3 leaf stages and planted. After planting, water levels were raised to 3 cm above the soil surface and maintained at this level throughout the test. Chemical treatments were formulated in a 5 non-phytotoxic solvent and applied directly to the paddy water. Treated plants and controls were maintained in a greenhouse for approximately 21 days, after which all species were compared to controls and visually evaluated. Plant response ratings, summarized in Table D, are reported on a 0 to 100 scale where 0 is no effect and 100 is complete control. A dash (-) response means no test result.

Table D	COMPOUND	Table D	COMPOUND
Rate 500 g/ha	3 46	Rate 250 g/ha	3 46
FLOOD		FLOOD	
Barnyardgrass 2	- 100	Barnyardgrass 2	- 100
Barnyardgrass 3	100 100	Barnyardgrass 3	100 100
Japonica 1	0 35	Japonica 1	0 20
Japonica 2	- 0	Japonica 2	- 0
Watergrass 2	- 0	Watergrass 2	- 0
Watergrass 3	85 –	Watergrass 3	90 -

Table D	COM	POUN	D	Table D	CC	MPO	UND
Rate 125 g/ha	3	46		Rate 32 g/ha	3	28	46
FLOOD				FLOOD			
Barnyardgrass 2	_	100		Barnyardgrass 2	-	85	100
Barnyardgrass 3	100	100		Barnyardgrass 3	98	85	100
Japonica 1	0	0		Japonica 1	0	0	0
Japonica 2	-	0		Japonica 2	-	0	0
Watergrass 2	-	0		Watergrass 2	_	0	0
Watergrass 3	80			Watergrass 3	75	-	-
Rate 64 g/ha	3	28	46	Rate 16 g/ha	3	28	46
FLOOD				FLOOD			
Barnyardgrass 2	-	98	100	Barnyardgrass 2	-	60	98
Barnyardgrass 3	100	98	100	Barnyardgrass 3	75	70	95
Japonica 1	0	0	10	Japonica 1	0	0	0
Japonica 2	_	0	0	Japonica 2	-	0	0
Watergrass 2	-	0	0	Watergrass 2	_	0	0
Watergrass 3	80	-	-	Watergrass 3	50	-	-
Rate 8 g/ha	3	28	46	Rate 4 g/ha	28	46	
FLOOD				FLOOD			
Barnyardgrass-2	_	35	80	Barnyardgrass 2	25	70	
Barnyardgrass 3	75	40	85	Barnyardgrass 3	30	70	
Japonica 1	0	0	0	Japonica 1	0	0	
Japonica 2	_	0	0	Japonica 2	0	0	
Watergrass 2	-	0	0	Watergrass 2	0	0	
Watergrass 3	45	_	_	Watergrass 3	_	_	

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TEST E

Plastic pots were partially filled with clay loam soil. Transplanted seedlings of Japonica rice (Oryza sative) and seeds of barnyardgrass (Echinoghloa oryzicola) were planted in flooded pots. Plants were then grown to the 2 leaf, 2.5 leaf and 3 leaf stages for testing. At test, water levels for all plantings were kept to 3 cm above the soil surface. Chemical treatments were formulated in a non-phytotoxic solvent and applied directly to the paddy water. Treated plants and controls were maintained in a greenhouse for approximately 21 to 28 days, after which all species were compared to controls and visually evaluated. Plant response ratings, summarized in Table E are reported on a 0 to 100 scale where 0 is no effect and 100 is complete control.

Table E C	OMPOUND	Table E	COMPOUND
Rate 1000 g/ha	3	Rate 250 g/ha	3
Barnyardgrass 2	50	Barnyardgrass 2	50
Rice 1	10	Rice 1	25
Rice 2	10	Rice 2	10
an existe gar			
Rate 500 g/ha	3	Rate 125 g/ha	3
Barnyardgrass 2	50	Barnyardgrass 2	40
Rice 1	15	Rice 1	0
Rice 2	10	Rice 2	0

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What is claimed is:

1. A composition for controlling the growth of undesired vegetation comprising an effective amount of a compound of Formula I or II

wherein

R1 is C1, Br, I, OCH3, OCHF2, OCF3 or NO2; 10 R^2 is CN, CO_2R^4 , CHO, C(X) $NR^{17}R^{18}$, C(S) OR^6 , C=CH, CHR¹⁹OR²⁰, CH=NOR⁷, CH=CR²¹R²², C(halogen)=NOR⁷, $C(NH_2) = NOR^7$, $C(CN) = NOR^7$, CHR^{19} (halogen), CHR¹⁹CN, CHR¹⁹C(=0)NH₂, CHR¹⁹CO₂H, or a five-15 membered heterocyclic ring containing one or more nitrogen, sulfur, or oxygen atoms and optionally substituted with one or more CH3, CF3, OCH3, SCH3, or halogen; R^3 is n-propyl; C_4-C_{10} alkyl; n-propyl or C_4-C_7 20 alkyl each substituted with one or more halogen, OR^8 , SR^9 or $NR^{10}R^{11}$; C_1-C_2 alkyl substituted with OR16, SR9, NR14R15, CO2(C1-C2 alkyl) or phenyl optionally substituted with

substituted with OR16, SR9, NR14R15, CO2(C1-C2 alkyl) or phenyl optionally substituted with one or more CH3, CF3, OCH3, SCH3 or halogen;

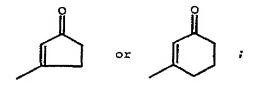
C3-C6 cycloalkyl; CH2(C3-C6 cycloalkyl); phenyl, pyridyl, thienyl, furyl, pyrazolyl or thiazolyl, each optionally substituted with one or more CH3, CF3, OCH3, SCH3 or halogen; C2-C6 alkenyl optionally substituted with one or more halogen or CO2(C1-C2 alkyl);

OR12; SR13; NR14R15; C(=X)R12;

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$$(H, C_1-C_2 \text{ alkyl})$$
 $(H, C_1-C_2 \text{ alkyl})$ OCH_2C CH_2 CH_2 CH_2

or $O-N=CR^{30}R^{31}$; R^4 is H, C_1-C_2 alkyl,



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 R^6 , R^7 , R^8 , R^9 , R^{10} and R^{11} are independently H or $C_1\text{-}C_2$ alkyl;

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R12 and R13 are independently C₁-C₁₀ alkyl optionally substituted with one or more halogen, OR⁸, SR⁹, CO₂R²³, C(O)NR²⁴R²⁵, CN, Si(CH₃)₃, C(R²⁶) (OR²⁷) (OR²⁸) or NR¹⁰R¹¹; C₁-C₃ alkyl substituted with a five- or six-membered heterocyclic ring containing 1-2 heteroatoms selected from the group 1-2 nitrogens, 1 oxygen and 1 sulfur, each ring optionally substituted with 1-2 substituents selected from F, Cl, Br, CH₃, CF₃, OCH₃ and CN; C₃-C₆ alkenyl; or phenyl or benzyl, each ring optionally substituted with one or more CH₃, CF₃, OCH₃, OR²⁹, SCH₃ or halogen;

20

R¹⁴ and R¹⁵ are independently H or C₁-C₂ alkyl, or may be taken together along with the nitrogen to which they are attached to form a pyrrolyl, piperidinyl, morpholinyl, pyrazolyl, or imidazolyl ring, each optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃, or halogen;

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- R¹⁶ is H, C₁-C₈ alkyl; benzyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen; or phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen;
- R¹⁷ is H, C₁-C₂ alkyl or phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen;
- R^{18} is H, C_1-C_2 alkyl, C_3-C_6 cycloalkyl, $CH_2(C_3-C_6$ cycloalkyl), $O(C_1-C_4$ alkyl), O-allyl or may be taken together with R^{17} as $-(CH_2)_4-$, $-(CH_2)_5-$ or $-(CH_2CH_2OCH_2CH_2)-$;
 - R^{19} is H or C_1-C_2 alkyl;
 - \mathbb{R}^{20} is H or C(O)CH₃;
- 15 R^{21} and R^{22} are independently H, CN, CO_2R^4 , $C(X)NR^{17}R^{18}$ or halogen;
 - R^{23} , R^{24} , R^{25} and R^{26} are independently H; C_1 - C_3 alkyl; or phenyl optionally substituted with one or more CH_3 , CF_3 , OCH_3 , SCH_3 , or halogen;
- 20 R^{27} and R^{28} are independently C_1-C_3 alkyl or may be taken together as $-(CH_2)_2-$ or $-(CH_2)_3-$ optionally substituted with 1-2 CH_3 's;
 - X is O or S;
 - R²⁹ is phenyl, pyridyl, thiazolyl, pyrazolyl or pyrrolyl each optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃, or halogen; and

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- R^{30} and R^{31} are each independently H; C_1 - C_{10} alkyl; or phenyl optionally substituted with one or more CH_3 , CF_3 , OCH_3 , SCH_3 , or halogen;
- 30 and agriculturally suitable salts thereof and at least one of the following: surfactant, solid or liquid diluent.
 - 2. The composition of Claim 1 wherein \mathbb{R}^1 is Cl. Br or I;

- R^2 is CN, CO_2H , CO_2CH_3 , $CO_2CH_2CH_3$, CHO, C(O)NH₂, C(O)NHCH₃, C(O)N(CH₃)₂, CH₂OH or CH=NOR⁷;
- R³ is π-propyl; C₄-C₇ alkyl; C₂ alkyl substituted with phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen; CH₂(C₃-C₆ cycloalkyl); phenyl optionally substituted with one or more CH₃, CF₃, OCH₃, SCH₃ or halogen; or OR¹²;

 \mathbb{R}^{12} is \mathbb{C}_2 - \mathbb{C}_4 alkyl;

- 10 3. The compositions of Claim 2 wherein
 - R1 is Cl or Br;
 - R^2 is CN, CO_2H or $C(O)NH_2$;
 - R^3 is C_4-C_7 alkyl, $CH_2(C_3-C_6$ cycloalkyl) or OR^{12} .
- 4. The composition of Claim 1 where the compound 15 is 2-chloro-4-(2-methylpropoxy)benzamide.
 - 5. A method for controlling the growth of undesired vegetation which comprises applying to the locus to be protected an effective amount of the composition of Claim 1.
- 20 6. A method for controlling the growth of undesired vegetation which comprises applying to the locus to be protected an effective amount of the composition of Claim 2.
- 7. A method for controlling the growth of
 25 undesired vegetation which comprises applying to the
 locus to be protected an effective amount of the
 composition of Claim 3.
- A method for controlling the growth of undesired vegetation which comprises applying to the
 locus to be protected an effective amount of the composition of Claim 4.
 - 9. A method for controlling the growth of undesired vegetation which comprises applying to the locus to be protected an effective amount of the composition of Claim 4.

Internatio Application No

PCT/US 93/08096

A. CLASSIF	ICATION	OF SUBJECT	MATTER
TDC E	401112	7/10	A01M21

A01N37/18

A01N31/14 AQ1N37/34 A01N35/04

A01N35/10

A01N37/10

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 5 **A01N**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

X US,A,3 776 715 (R.J. THEISSEN 1973 see column 1, line 19 - line A GB,A,900 561 (HOOKER) 11 July A GB,A,901 553 (VELSICOL) 18 July A FR,A,1 216 998 (PHILIPS) 29 A A US,A,3 169 849 (A.J. LEMIN) 1	34 y 1962
A GB,A,901 553 (VELSICOL) 18 June 18 J	
A FR,A,1 216 998 (PHILIPS) 29 A	Jly 1962
A US.A.3 169 849 (A.J. LEMIN) 1	lpril 1960
1965	l6 February
A US,A,3 982 931 (E. ARSURA ET September 1976	AL.) 28

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

Special categories of cited documents:

- document defining the general state of the art which is not considered to be of particular relevance
- -Eeartier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- document published prior to the international filing date but later than the priority date claimed
- "I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Date of mailing of the international search report

"&" document member of the same patent family

Date of the actual completion of the international search

5 January 1984

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

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Form PCT/ISA/218 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

tional application No

PCT/US 93/08096

Box 1	Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This int	ernational search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. 🗆	Claims Nos.; because they relate to subject matter not required to be searched by this Authority, namely:
2. X	Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically: Claims searched completely: : 2-4, 6-9 Claims searched incompletely: 1, 5; only their subject matter as defined in claims 2-4, and 6-9 has been searched completely. (see attached sheet)
3.	Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This Int	ernational Searching Authority found multiple inventions in this international application, as follows:
-	
1.	As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.	As all searchable claims could be searches without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
з. 🗀	As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4.	No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark	The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (1)) (July 1992)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/

In accordance with the last paragraph of Chapter III, Point 3.5 of the PCT Search Guidelines, the subject matter of claims 1 and 5 has not been exhaustively searched. Only its subject matter as further defined in the compositions claims 2, 3 and 4 as well as in the corresponding use claims 6-9 has been exhaustively searched.

Additional arguments for limiting the scope of the search could be found in the following considerations:

Each of the claimed compounds comprised in the Markush Formula I and II, is a compound resulting from the variation of the values of each of the three substituents (which embrace a vast array of independently varying radicals which are heterogeneous in structure - in particular RI - on an 1,2,4 tri-substituted nucleus which represents a special istructural) technical feature of the herbicide derivatives according to the invention.

It appears from e.g. US-A- 3.776.715 (see column 1 , line 19 - line 34) that herbicidal compounds comprising this structural element are known in the prior art.

In this perspective it is not possible (starting from the plethora of individual compounds and without making assumptions having no basis in the application documents) to unambiguously determine a (or a plurality of) GENERALISED set(s) of distinct features which could be considered as special technical features of a solution or of a plurality of alternative solutions to an accordingly formulated problem underlying the invention as a whole.

Consequently the wording of claims 1 and 5 does not comply with Art 5, and Rule 6.3(a), which require that an invention should be clearly defined in terms of the features supported by the invention. These should be identifiable from an appropriate technical statement, supported by the description of the problem and the solution thereto proposed.

The application does not comply with rule 5.1(a) ii and iii in that the description does not provide the common feature(s) of the compounds embraced by the breadth of the definition of claim 1 in a useful manner for understanding the invention and carrying out the search.

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IN	TERNATIONAL SEAR	CH REPORT	Internatio A	polication No	
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